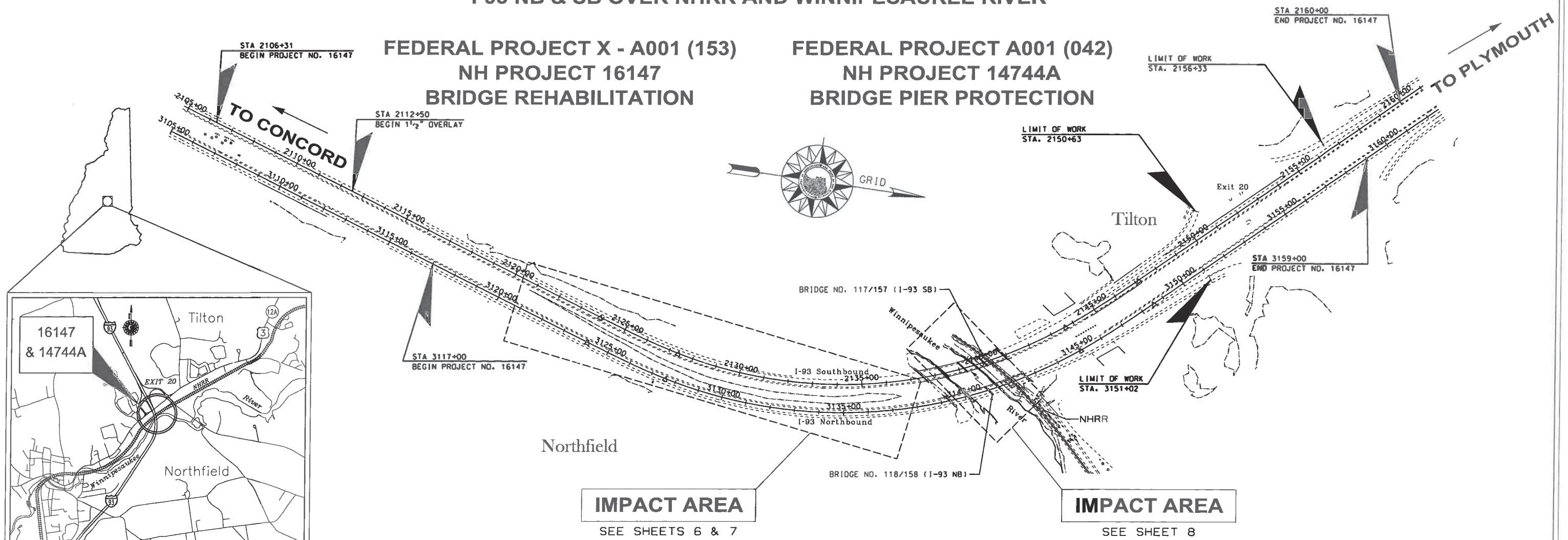
THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

WETLAND IMPACT PLANS

I-93 NB & SB OVER NHRR AND WINNIPESAUKEE RIVER

FEDERAL PROJECT X - A001 (153)
NH PROJECT 16147
BRIDGE REHABILITATION

FEDERAL PROJECT A001 (042)
NH PROJECT 14744A
BRIDGE PIER PROTECTION



LOCATION MAP

1 ½ 0 1 2 mi.

GRAPHIC SCALE: 1"=1/2 MILE

NORTHFIELD - TILTON

COUNTIES OF MERRIMACK & BELKNAP

SCALE: 1" = 200'

FOR CONSTRUCTION AND ALIGNMENT
DETAILS- SEE CONSTRUCTION PLANS

DRAWN BY TPL DATE 04/16
CHECKED BY DEM DATE 04/16

INDEX OF SHEETS

WETLANDS WERE DELINEATED BY NORMANDEAU ASSOCIATES, INC. ON MAY 17, 2012 AND BY NHDOT ON APRIL 20, 2016. THE WETLAND DELINEATIONS WERE COMPLETED IN ACCORDANCE WITH THE CRITERIA DESCRIBED IN THE U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL TECHNICAL REPORT Y-87-1 (JANUARY,1987) AND THE REGIONAL SUPPLEMENT FOR THE NORTHCENTRAL AND NORTHEAST REGION (JANUARY, 2012) AND MEET THE CRITERIA FOR WETLAND DELINEATION IN ACCORDANCE WITH THE NH DES ADMINISTRATIVE RULES ENV-WT 301.01.

NHDOT THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL:

DIRECTOR OF PROJECT DEVELOPMENT — DATE

APPROVED:

ASSISTANT COMMISSIONER AND CHIEF ENGINEER — DATE

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR — DATE

FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
X-A001(153)	16147	1	15

GENERAL

EDGE OF PAVEMENT
TRAVELED WAY
PROPOSED ROADWAY
existing roadway
(pavement removed outside slope lines)

DRIVEWAYS
(label surface type)

BUILDINGS
(building to be removed)
(label house or type of building)

FOUNDATION
(label type)

LEACH FIELD
leach field

BRIDGE CROSSINGS
STREAM
OVERPASS

STEPS AND WALK
(label type)

INTERMITTENT WATER COURSE

SHORE LINE
river/stream
pond
(label name of water body)

POTENTIAL WET AREA SYMBOL

BRUSH OR WOODS LINE

TREES (PLANS)
(deciduous) (coniferous) (stump)
(show station, circumference in feet & type)

TREE OR STUMP (CROSS-SECTIONS)

HEDGE
(label type)

MONITORING WELL
mon

WELL

FLAG POLE
fp

ORIGINAL GROUND (TYPICALS)

ROCK OUTCROP

ROCK LINE (TYPICALS & SECTIONS ONLY)

GUARDRAIL (label type)
existing
PROPOSED
bgr
cgr

JERSEY BARRIER

CURB (LABEL TYPE)

STONE WALL

RETAINING WALL (LABEL TYPE)
(points toward retained ground)

FENCE (LABEL TYPE)

SIGNS
(single post)
(double post)

GAS PUMP
gp

FUEL TANK (ABOVE GROUND)
ft (label size & type)

STORAGE TANK FILLER CAP
fc

SEPTIC TANK
S

GRAVE
gr

MAILBOX
mb

VENT PIPE
vp

SATELLITE DISH ANTENNA
da

PHONE
ph

GROUND LIGHT/LAMP POST
gl lp

BORING LOCATION
B

TEST PIT
TP

INTERSTATE NUMBERED HIGHWAY
293

UNITED STATES NUMBERED HIGHWAY
3

STATE NUMBERED HIGHWAY
102

SHORELAND - WETLAND

WETLAND DESIGNATION AND TYPE
2 PUB2E

DELINEATED WETLAND — DW —
ORDINARY HIGH WATER — OHW —
TOP OF BANK — TOB —
TOP OF BANK & ORDINARY HIGH WATER — TOBOHW —
NORMAL HIGH WATER — NHW —
WIDTH AT BANK FULL — WBF —
PRIME WETLAND — PWET —
PRIME WETLAND 100' BUFFER — PWET100 —
NON-JURISDICTIONAL DRAINAGE AREA — NJDA —
COWARDIN DISTINCTION LINE — CDL —
TIDAL BUFFER ZONE — TBZ —
DEVELOPED TIDAL BUFFER ZONE — DTBZ —
HIGHEST OBSERVABLE TIDE LINE — HOTL —
MEAN HIGH WATER — MHW —
MEAN LOW WATER — MLW —
VERNAL POOL — VP —
SPECIAL AQUATIC SITE — SAS —
REFERENCE LINE
WATER FRONT BUFFER — WB50 —
NATURAL WOODLAND BUFFER — NWB150 —
PROTECTED SHORELAND — PS250 —
INVASIVE SPECIES LABEL
I.S. I
I.S. II
INVASIVE SPECIES — INV —

FLOODPLAIN / FLOODWAY

500 YEAR FLOODPLAIN BOUNDARY — FP500 —
100 YEAR FLOODPLAIN BOUNDARY — FP100 —
FLOODWAY — FW —

ENGINEERING

CONSTRUCTION BASELINE
30 31 32

PC. PT. POT (ON CONST BASELINE)

PI (IN CONSTRUCTION BASELINES)

INTERSECTION OR EQUATION OF TWO LINES

ORIGINAL GROUND LINE (PROFILES AND CROSS-SECTIONS)

PROFILE GRADE LINE (PROFILES AND CROSS-SECTIONS)

SLOPE LINE
CLEARING LINE

CLEARING LINE
SLOPE LINE

SLOPE LINE (FILL)

SLOPE LINE (CUT)

PROFILES AND CROSS SECTIONS:
ORIGINAL GROUND ELEVATION (LEFT)
FINISHED GRADE ELEVATION (RIGHT)
72.5
79.14

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
11-21-2014	stdsymbl	16147	2	15

DRAINAGE

MANHOLE

CATCH BASIN — cb

DROP INLET — di

(existing) (PROPOSED)

DRAINAGE PIPE (existing) — (label size & type)

DRAINAGE PIPE (PROPOSED)

UNDERDRAIN (existing) W/ FLUSHING BASIN — fb — (label size & type)

UNDERDRAIN (PROPOSED) W/ FLUSHING BASIN

show direction of flow

HEADER (existing & PROPOSED) — (with stone outlet protection)

END SECTION (existing & PROPOSED) — METAL or PLASTIC; RCP

OPEN DITCH (PROPOSED)

EROSION CONTROL/ STONE SLOPE PROTECTION

BOUNDARIES / RIGHT-OF-WAY

RIGHT-OF-WAY LINE — (label type)

RR RIGHT-OF-WAY LINE

PROPERTY LINE

PROPERTY LINE (COMMON OWNER) — Z — Z

TOWN LINE — BOW / CONCORD

COUNTY LINE — COOS / GRAFTON

STATE LINE — MAINE / NEW HAMPSHIRE

NATIONAL FOREST

CONSERVATION LAND — LC

BENCH MARK / SURVEY DISK

BOUND — bnd — (PROPOSED)

STATE LINE/ TOWN LINE MONUMENT — S/L — T/L

NHDOT PROJECT MARKER

IRON PIPE OR PIN — ip

DRILL HOLE IN ROCK — dh

TAX MAP AND LOT NUMBER — 156 / 14 — 1642/341 — 6.80 Ac.±

PROPERTY PARCEL NUMBER — 12

HISTORIC PROPERTY — H

UTILITIES

existing PROPOSED

TELEPHONE POLE

POWER POLE

JOINT OCCUPANCY

MISCELLANEOUS/UNKNOWN POLE

GUY POLE OR PUSH BRACE

(plot point at face not center of symbol)

LIGHT POLE

LIGHT ON POWER POLE

LIGHT ON JOINT POLE

POLE STATUS:
REMOVE, LEAVE, PROPOSED, OR TEMPORARY AS APPLICABLE e.g.:

R L — P+04 25.0' — T+04 25.0'

RAILROAD — (label ownership)

RAILROAD SIGN

RAILROAD SIGNAL

UTILITY JUNCTION BOX — jb — JB

OVERHEAD ELECTRIC — OE

UNDERGROUND UTILITIES

WATER (on existing lines label size, type and note if abandoned) — W — PW

SEWER — S — PS

TELEPHONE — T — PT

ELECTRIC — E — PE

GAS — G — PG

LIGHTING — L — PL

INTELLIGENT TRANSPORTATION SYSTEM — ITS — PITS

FIBER OPTIC — FO — PFO

WATER SHUT OFF

GAS SHUT OFF

HYDRANT

MANHOLES

SEWER — MHS

TELEPHONE — MHT

ELECTRICAL — MHE

GAS — MHG

UNKNOWN — MHU

TRAFFIC SIGNALS / ITS

existing PROPOSED

MAST ARM (existing) — 30' MA (NOTE ANGLE FROM ℄)

OPTICOM RECEIVER

OPTICOM STROBE

TRAFFIC SIGNAL

PEDESTAL WITH PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON UNIT

SIGNAL CONDUIT — C — PC

CONTROLLER CABINET — cc — CC

METER PEDESTAL — mp — MP

PULL BOX — pb — PB

LOOP DETECTOR (QUADRUPOLE) — (label size)

LOOP DETECTOR (RECTANGULAR) — (label size)

CAMERA POLE (CCTV)

FIBER OPTIC DELINEATOR — fod — FOD

FIBER OPTIC SPLICE VAULT — SVF

ITS EQUIPMENT CABINET — its — ITS

VARIABLE SPEED LIMIT SIGN

DYNAMIC MESSAGE SIGN

ROAD AND WEATHER INFO SYSTEM

CONSTRUCTION NOTES

CURB MARK NUMBER – BITUMINOUS — B-1

CURB MARK NUMBER – GRANITE — G-1

CLEARING AND GRUBBING AREA — A

DRAINAGE NOTE — 1

EROSION CONTROL NOTE — A

FENCING NOTE — A

GUARDRAIL NOTE — 1

ITS NOTE — 1

LIGHTING NOTE — A

TRAFFIC SIGNAL NOTE — 1

STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

STANDARD SYMBOLS

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
11-21-2014	stdsymb2	16147	3	15

EROSION CONTROL STRATEGIES

1. ENVIRONMENTAL COMMITMENTS:
   - 1.1. THESE GUIDELINES DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH ANY CONTRACT PROVISIONS, OR APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
   - 1.2. THIS PROJECT WILL BE SUBJECT TO THE US EPA'S NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER CONSTRUCTION GENERAL PERMIT AS ADMINISTERED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THIS PROJECT IS SUBJECT TO REQUIREMENTS IN THE MOST RECENT CONSTRUCTION GENERAL PERMIT (CGP).
   - 1.3. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE NHDES WETLAND PERMIT, THE US ARMY CORPS OF ENGINEERS PERMIT, WATER QUALITY CERTIFICATION AND THE SPECIAL ATTENTION ITEMS INCLUDED IN THE CONTRACT DOCUMENTS.
   - 1.4. ALL STORM WATER, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION (DECEMBER 2008) (BMP MANUAL) AVAILABLE FROM THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES (NHDES).
   - 1.5. THE CONTRACTOR SHALL COMPLY WITH RSA 485-A:17, AND ALL, PUBLISHED NHDES ALTERATION OF TERRAIN ENV-WQ 1500 REQUIREMENTS (HTTP://DES.NH.GOV/ORGANIZATION/COMMISSIONER/LEGAL/RULES/INDEX.HTM)
   - 1.6. THE CONTRACTOR IS DIRECTED TO REVIEW AND COMPLY WITH SECTION 107.1 OF THE CONTRACT AS IT REFERS TO SPILLAGE, AND ALSO WITH REGARDS TO EROSION, POLLUTION, AND TURBIDITY PRECAUTIONS.

2. STANDARD EROSION CONTROL SEQUENCING APPLICABLE TO ALL CONSTRUCTION PROJECTS:
   - 2.1. PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH DISTURBING ACTIVITIES. PERIMETER CONTROLS AND STABILIZED CONSTRUCTION EXITS SHALL BE INSTALLED AS SHOWN IN THE BMP MANUAL AND AS DIRECTED BY THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARER.
   - 2.2. EROSION, SEDIMENTATION CONTROL MEASURES AND INFILTRATION BASINS SHALL BE CLEANED, REPLACED AND AUGMENTED AS NECESSARY TO PREVENT SEDIMENTATION BEYOND PROJECT LIMITS THROUGHOUT THE PROJECT DURATION.
   - 2.3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT AND SECTION 645 OF THE NHDOT SPECIFICATIONS FOR ROAD AND BRIDGES CONSTRUCTION.
   - 2.4. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
     - (A) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
     - (B) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
     - (C) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED;
     - (D) TEMPORARY SLOPE STABILIZATION CONFORMING TO TABLE 1 HAS BEEN PROPERLY INSTALLED
   - 2.5. ALL STOCKPILES SHALL BE CONTAINED WITH A PERIMETER CONTROL. IF THE STOCKPILE IS TO REMAIN UNDISTURBED FOR MORE THAN 14 DAYS, MULCHING WILL BE REQUIRED.
   - 2.6. A WATER TRUCK SHALL BE AVAILABLE TO CONTROL EXCESSIVE DUST AT THE DIRECTION OF THE CONTRACT ADMINISTRATOR.
   - 2.7. TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL REMAIN UNTIL THE AREA HAS BEEN PERMANENTLY STABILIZED.
   - 2.8. CONSTRUCTION PERFORMED ANY TIME BETWEEN NOVEMBER 30TH AND MAY 1ST OF ANY YEAR SHALL BE CONSIDERED WINTER CONSTRUCTION AND SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.
     - (A) ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED IN ACCORDANCE WITH TABLE 1.
     - (B) ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR IN ACCORDANCE WITH TABLE 1.
     - (C) AFTER NOVEMBER 30TH INCOMPLETE ROAD SURFACES, WHERE WORK HAS STOPPED FOR THE SEASON, SHALL BE PROTECTED IN ACCORDANCE WITH TABLE 1.
     - (D) WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE PROJECT IS WITHOUT STABILIZATION AT ONE TIME, UNLESS A WINTER CONSTRUCTION PLAN HAS BEEN APPROVED BY NHDOT THAT MEETS THE REQUIREMENTS OF ENV-WQ 1505.02 AND ENV-WQ 1505.05.
     - (E) A SWPPP AMENDMENT SHALL BE SUBMITTED TO THE DEPARTMENT, FOR APPROVAL, ADDRESSING COLD WEATHER STABILIZATION (ENV-WQ 1505.05) AND INCLUDING THE REQUIREMENTS OF NO LESS THAN 30 DAYS PRIOR TO THE COMMENCEMENT OF WORK SCHEDULED AFTER NOVEMBER 30TH.

GENERAL CONSTRUCTION PLANNING AND SELECTION OF STRATEGIES TO CONTROL EROSION AND SEDIMENT ON HIGHWAY CONSTRUCTION PROJECTS

3. PLAN ACTIVITIES TO ACCOUNT FOR SENSITIVE SITE CONDITIONS:
   - 3.1. CLEARLY FLAG AREAS TO BE PROTECTED IN THE FIELD AND PROVIDE CONSTRUCTION BARRIERS TO PREVENT TRAFFICKING OUTSIDE OF WORK AREAS.
   - 3.2. CONSTRUCTION SHALL BE SEQUENCED TO LIMIT THE DURATION AND AREA OF EXPOSED SOILS.
   - 3.3. PROTECT AND MAXIMIZE EXISTING NATIVE VEGETATION AND NATURAL FOREST BUFFERS BETWEEN CONSTRUCTION ACTIVITY AND SENSITIVE AREAS.
   - 3.4. WHEN WORK IS PERFORMED IN AND NEAR WATER COURSES, STREAM FLOW DIVERSION METHODS SHALL BE IMPLEMENTED PRIOR TO ANY EXCAVATION OR FILLING.
   - 3.5. WHEN WORK IS PERFORMED WITHIN 50 FEET OF SURFACE WATERS (WETLAND, OPEN WATER OR FLOWING WATER), PERIMETER CONTROL SHALL BE ENHANCED CONSISTENT WITH SECTION 2.1.2.1. OF THE 2012 NPDES CONSTRUCTION GENERAL PERMIT.

4. MINIMIZE THE AMOUNT OF EXPOSED SOIL:
   - 4.1. CONSTRUCTION SHALL BE SEQUENCED TO LIMIT THE DURATION AND AREA OF EXPOSED SOILS. MINIMIZE THE AREA OF EXPOSED SOIL AT ANY ONE TIME. PHASING SHALL BE USED TO REDUCE THE AMOUNT AND DURATION OF SOIL EXPOSED TO THE ELEMENTS AND VEHICLE TRACKING.
   - 4.2. UTILIZE TEMPORARY MULCHING OR PROVIDE ALTERNATE TEMPORARY STABILIZATION ON EXPOSED SOILS IN ACCORDANCE WITH TABLE 1.
   - 4.3. THE MAXIMUM AMOUNT OF DISTURBED EARTH SHALL NOT EXCEED A TOTAL OF 5 ACRES FROM MAY 1ST THROUGH NOVEMBER 30TH, OR EXCEED ONE ACRE DURING WINTER MONTHS, UNLESS THE CONTRACTOR DEMONSTRATES TO THE DEPARTMENT THAT THE ADDITIONAL AREA OF DISTURBANCE IS NECESSARY TO MEET THE CONTRACTORS CRITICAL PATH METHOD SCHEDULE (CPM), AND THE CONTRACTOR HAS ADEQUATE RESOURCES AVAILABLE TO ENSURE THAT ENVIRONMENTAL COMMITMENTS WILL BE MET.

5. CONTROL STORMWATER FLOWING ONTO AND THROUGH THE PROJECT:
   - 5.1. DIVERT OFF SITE RUNOFF OR CLEAN WATER AWAY FROM THE CONSTRUCTION ACTIVITY TO REDUCE THE VOLUME THAT NEEDS TO BE TREATED ON SITE.
   - 5.2. DIVERT STORM RUNOFF FROM UPSLOPE DRAINAGE AREAS AWAY FROM DISTURBED AREAS, SLOPES, AND AROUND ACTIVE WORK AREAS AND TO A STABILIZED OUTLET LOCATION.
   - 5.3. CONSTRUCT IMPERMEABLE BARRIERS AS NECESSARY TO COLLECT OR DIVERT CONCENTRATED FLOWS FROM WORK OR DISTURBED AREAS.
   - 5.4. STABILIZE, TO APPROPRIATE ANTICIPATED VELOCITIES, CONVEYANCE CHANNELS OR PUMPING SYSTEMS NEEDED TO CONVEY CONSTRUCTION STORMWATER TO BASINS AND DISCHARGE LOCATIONS PRIOR TO USE.
   - 5.5. DIVERT OFF-SITE WATER THROUGH THE PROJECT IN AN APPROPRIATE MANNER SO NOT TO DISTURB THE UPSTREAM OR DOWNSTREAM SOILS, VEGETATION OR HYDROLOGY BEYOND THE PERMITTED AREA.

6. PROTECT SLOPES:
   - 6.1. INTERCEPT AND DIVERT STORM RUNOFF FROM UPSLOPE DRAINAGE AREAS AWAY FROM UNPROTECTED AND NEWLY ESTABLISHED AREAS AND SLOPES TO A STABILIZED OUTLET OR CONVEYANCE.
   - 6.2. CONSIDER HOW GROUNDWATER SEEPAGE ON CUT SLOPES MAY IMPACT SLOPE STABILITY AND INCORPORATE APPROPRIATE MEASURES TO MINIMIZE EROSION.
   - 6.3. CONVEY STORMWATER DOWN THE SLOPE IN A STABILIZED CHANNEL OR SLOPE DRAIN.
   - 6.4. THE OUTER FACE OF THE FILL SLOPE SHOULD BE IN A LOOSE RUFFLED CONDITION PRIOR TO TURF ESTABLISHMENT. TOPSOIL OR HUMUS LAYERS SHALL BE TRACKED UP AND DOWN THE SLOPE, DISKED, HARROWED, DRAGGED WITH A CHAIN OR MAT, MACHINE-RAKED, OR HAND-WORKED TO PRODUCE A RUFFLED SURFACE.

7. ESTABLISH STABILIZED CONSTRUCTION EXITS:
   - 7.1. INSTALL AND MAINTAIN CONSTRUCTION EXITS, ANYWHERE TRAFFIC LEAVES A CONSTRUCTION SITE ONTO A PUBLIC RIGHT-OF-WAY.
   - 7.2. SWEEP ALL CONSTRUCTION RELATED DEBRIS AND SOIL FROM THE ADJACENT PAVED ROADWAYS AS NECESSARY.

8. PROTECT STORM DRAIN INLETS:
   - 8.1. DIVERT SEDIMENT LADEN WATER AWAY FROM INLET STRUCTURES TO THE EXTENT POSSIBLE.
   - 8.2. INSTALL SEDIMENT BARRIERS AND SEDIMENT TRAPS AT INLETS TO PREVENT SEDIMENT FROM ENTERING THE DRAINAGE SYSTEM.
   - 8.3. CLEAN CATCH BASINS, DRAINAGE PIPES, AND CULVERTS IF SIGNIFICANT SEDIMENT IS DEPOSITED.
   - 8.4. DROP INLET SEDIMENT BARRIERS SHOULD NEVER BE USED AS THE PRIMARY MEANS OF SEDIMENT CONTROL AND SHOULD ONLY BE USED TO PROVIDE AN ADDITIONAL LEVEL OF PROTECTION TO STRUCTURES AND DOWN-GRADIENT SENSITIVE RECEPTORS.

9. SOIL STABILIZATION:
   - 9.1. WITHIN THREE DAYS OF THE LAST ACTIVITY IN AN AREA, ALL EXPOSED SOIL AREAS, WHERE CONSTRUCTION ACTIVITIES ARE COMPLETE, SHALL BE STABILIZED.
   - 9.2. IN ALL AREAS, TEMPORARY SOIL STABILIZATION MEASURES SHALL BE APPLIED IN ACCORDANCE WITH THE STABILIZATION REQUIREMENTS (SECTION 2.2) OF THE 2012 CGP. (SEE TABLE 1 FOR GUIDANCE ON THE SELECTION OF TEMPORARY SOIL STABILIZATION MEASURES.)
   - 9.3. EROSION CONTROL SEED MIX SHALL BE SOWN IN ALL INACTIVE CONSTRUCTION AREAS THAT WILL NOT BE PERMANENTLY SEEDED WITHIN TWO WEEKS OF DISTURBANCE AND PRIOR TO SEPTEMBER 15, OF ANY GIVEN YEAR. IN ORDER TO ACHIEVE VEGETATIVE STABILIZATION PRIOR TO THE END OF THE GROWING SEASON.
   - 9.4. SOIL TACKIFIERS MAY BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND REAPPLIED AS NECESSARY TO MINIMIZE SOIL AND MULCH LOSS UNTIL PERMANENT VEGETATION IS ESTABLISHED.

10. RETAIN SEDIMENT ON-SITE AND CONTROL DEWATERING PRACTICES:
    - 10.1. TEMPORARY SEDIMENT BASINS (CGP-SECTION 2.1.3.2) OR SEDIMENT TRAPS (ENV-WQ 1506.10) SHALL BE SIZED TO RETAIN, ON SITE, THE VOLUME OF A 2-YEAR 24-HOUR STORM EVENT FOR ANY AREA OF DISTURBANCE OR 3,600 CUBIC FEET OF STORMWATER RUNOFF PER ACRE OF DISTURBANCE, WHICHEVER IS GREATER. TEMPORARY SEDIMENT BASINS USED TO TREAT STORMWATER RUNOFF FROM AREAS GREATER THAN 5-ACRES OF DISTURBANCE SHALL BE SIZED TO ALSO CONTROL STORMWATER RUNOFF FROM A 10-YEAR 24 HOUR STORM EVENT. ON-SITE RETENTION OF THE 10-YEAR 24-HOUR EVENT IS NOT REQUIRED.
    - 10.2. CONSTRUCT AND STABILIZE DEWATERING INFILTRATION BASINS PRIOR TO ANY EXCAVATION THAT MAY REQUIRE DEWATERING.
    - 10.3. TEMPORARY SEDIMENT BASINS OR TRAPS SHALL BE PLACED AND STABILIZED AT LOCATIONS WHERE CONCENTRATED FLOW (CHANNELS AND PIPES) DISCHARGE TO THE SURROUNDING ENVIRONMENT FROM AREAS OF UNSTABILIZED EARTH DISTURBING ACTIVITIES.

11. ADDITIONAL EROSION AND SEDIMENT CONTROL GENERAL PRACTICES:
    - 11.1. USE TEMPORARY MULCHING, PERMANENT MULCHING, TEMPORARY VEGETATIVE COVER, AND PERMANENT VEGETATIVE COVER TO REDUCE THE NEED FOR DUST CONTROL. USE MECHANICAL SWEEPERS ON PAVED SURFACES WHERE NECESSARY TO PREVENT DUST BUILDUP. APPLY WATER, OR OTHER DUST INHIBITING AGENTS OR TACKIFIERS, AS APPROVED BY THE NHDES.
    - 11.2. ALL STOCKPILES SHALL BE CONTAINED WITH TEMPORARY PERIMETER CONTROLS. INACTIVE SOIL STOCKPILES SHOULD BE PROTECTED WITH SOIL STABILIZATION MEASURES (TEMPORARY EROSION CONTROL SEED MIX AND MULCH, SOIL BINDER) OR COVERED WITH ANCHORED TARPS.
    - 11.3. EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSPECTED IN ACCORDANCE WITH SECTION 645 OF NHDOT SPECIFICATIONS, WEEKLY AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.25 IN. OF RAIN PER 24-HOUR PERIOD. EROSION AND SEDIMENT CONTROL MEASURES WILL ALSO BE INSPECTED IN ACCORDANCE WITH THE GUIDANCE MEMO FROM THE NHDES CONTAINED WITHIN THE CONTRACT PROPOSAL AND THE EPA CONSTRUCTION GENERAL PERMIT.
    - 11.4. THE CONTRACTOR SHOULD UTILIZE STORM DRAIN INLET PROTECTION TO PREVENT SEDIMENT FROM ENTERING A STORM DRAINAGE SYSTEM PRIOR TO THE PERMANENT STABILIZATION OF THE CONTRIBUTING DISTURBED AREA.
    - 11.5. PERMANENT STABILIZATION MEASURES WILL BE CONSTRUCTED AND MAINTAINED IN LOCATIONS AS SHOWN ON THE CONSTRUCTION PLANS TO STABILIZE AREAS. VEGETATIVE STABILIZATION SHALL NOT BE CONSIDERED PERMANENTLY STABILIZED UNTIL VEGETATIVE GROWTH COVERS AT LEAST 85% OF THE DISTURBED AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL FOR ONE YEAR AFTER PROJECT COMPLETION.
    - 11.6. CATCH BASINS: CARE SHALL BE TAKEN TO ENSURE THAT SEDIMENTS DO NOT ENTER ANY EXISTING CATCH BASINS DURING CONSTRUCTION. THE CONTRACTOR SHALL PLACE TEMPORARY STONE INLET PROTECTION OVER INLETS IN AREAS OF SOIL DISTURBANCE THAT ARE SUBJECT TO SEDIMENT CONTAMINATION.
    - 11.7. TEMPORARY AND PERMANENT DITCHES SHALL BE CONSTRUCTED, STABILIZED AND MAINTAINED IN A MANNER THAT WILL MINIMIZE SCOUR. TEMPORARY AND PERMANENT DITCHES SHALL BE DIRECTED TO DRAIN TO SEDIMENT BASINS OR STORM WATER COLLECTION AREAS.
    - 11.8. WINTER EXCAVATION AND EARTHWORK ACTIVITIES NEED TO BE LIMITED IN EXTENT AND DURATION, TO MINIMIZE POTENTIAL EROSION AND SEDIMENTATION IMPACTS. THE AREA OF EXPOSED SOIL SHALL BE LIMITED TO ONE ACRE, OR THAT WHICH CAN BE STABILIZED AT THE END OF EACH DAY UNLESS A WINTER CONSTRUCTION PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST, IS REVIEWED AND APPROVED BY THE DEPARTMENT.
    - 11.9. CHANNEL PROTECTION MEASURES SHALL BE SUPPLEMENTED WITH PERIMETER CONTROL MEASURES WHEN THE DITCH LINES OCCUR AT THE BOTTOM OF LONG FILL SLOPES. THE PERIMETER CONTROLS SHALL BE INSTALLED ON THE FILL SLOPE TO MINIMIZE THE POTENTIAL FOR FILL SLOPE SEDIMENT DEPOSITS IN THE DITCH LINE.

BEST MANAGEMENT PRACTICES (BMP) BASED ON AMOUNT OF OPEN CONSTRUCTION AREA

12. STRATEGIES SPECIFIC TO OPEN AREAS LESS THAN 5 ACRES:
    - 12.1. THE CONTRACTOR SHALL COMPLY WITH RSA 485:A:17 AND ENV-WQ 1500: ALTERATION OF TERRAIN FOR CONSTRUCTION AND USE ALL CONVENTIONAL BMP STRATEGIES.
    - 12.2. SLOPES STEEPER THAN 3:1 WILL RECEIVE TURF ESTABLISHMENT WITH MATTING.
    - 12.3. SLOPES 3:1 OR FLATTER WILL RECEIVE TURF ESTABLISHMENT ALONE.
    - 12.4. AREAS WHERE HAUL ROADS ARE CONSTRUCTED AND STORMWATER CANNOT BE TREATED THE DEPARTMENT WILL CONSIDER INFILTRATION.
    - 12.5. FOR HAUL ROADS ADJACENT TO SENSITIVE ENVIRONMENTAL AREAS OR STEEPER THAN 5%, THE DEPARTMENT WILL CONSIDER USING EROSION STONE, CRUSHED GRAVEL, OR CRUSHED STONE BASE TO HELP MINIMIZE EROSION ISSUES.
    - 12.6. ALL AREAS THAT CAN BE STABILIZED SHALL BE STABILIZED PRIOR TO OPENING UP NEW TERRITORY.
    - 12.7. DETENTION BASINS SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE A 2 YEAR STORM EVENT.

13. STRATEGIES SPECIFIC TO OPEN AREAS BETWEEN 5 AND 10 ACRES:
    - 13.1. THE CONTRACTOR SHALL COMPLY WITH RSA 485:A:17 AND ENV-WQ 1500 ALTERATION OF TERRAIN AND SHALL USE CONVENTIONAL BMP STRATEGIES AND ALL TREATMENT OPTIONS USED FOR UNDER 5 ACRES WILL BE UTILIZED.
    - 13.2. DETENTION BASINS WILL BE CONSTRUCTED TO ACCOMMODATE THE 2-YEAR 24-HOUR STORM EVENT AND CONTROL A 10-YEAR 24-HOUR STORM EVENT.
    - 13.3. SLOPES STEEPER THAN A 3:1 WILL RECEIVE TURF ESTABLISHMENT WITH MATTING OR OTHER TEMPORARY SOIL STABILIZATION MEASURES DETAILED IN TABLE 1. THE CONTRACTOR MAY ALSO CONSIDER A SOIL BINDER IN ACCORDANCE WITH THE NHDES APPROVALS OR REGULATIONS. OTHER ALTERNATIVE MEASURES, SUCH AS BONDED FIBER MATRIXES (BFMS) OR FLEXIBLE GROWTH MEDIUMS (FGMS) MAY BE UTILIZED, IF MEETING THE NHDES APPROVALS AND REGULATIONS.
    - 13.4. SLOPES 3:1 OR FLATTER WILL RECEIVE TURF ESTABLISHMENT OR OTHER TEMPORARY SOIL STABILIZATION MEASURES DETAILED IN TABLE 1. THE CONTRACTOR MAY ALSO CONSIDER A SOIL BINDER IN ACCORDANCE WITH THE NHDES APPROVALS OR REGULATIONS.

14. STRATEGIES SPECIFIC TO OPEN AREAS OVER 10 ACRES:
    - 14.1. THE CONTRACTOR SHALL COMPLY WITH RSA 485:A:17 AND ENV-WQ 1500 ALTERATION OF TERRAIN AND SHALL USE CONVENTIONAL BMP STRATEGIES AND ALL TREATMENT OPTIONS USED FOR UNDER 5 ACRES AND BETWEEN 5 AND 10 ACRES WILL BE UTILIZED.
    - 14.2. THE DEPARTMENT ANTICIPATES THAT SOIL BINDERS WILL BE NEEDED ON ALL SLOPES STEEPER THAN 3:1. IN ORDER TO MINIMIZE EROSION AND REDUCE THE AMOUNT OF SEDIMENT IN THE STORMWATER TREATMENT BASINS.
    - 14.3. THE CONTRACTOR WILL BE REQUIRED TO HAVE AN APPROVED DESIGN IN ACCORDANCE WITH ENV-WQ 1506.12 FOR AN ACTIVE FLOCCULANT TREATMENT SYSTEM TO TREAT AND RELEASE WATER CAPTURED IN STORM WATER BASINS. THE CONTRACTOR SHALL ALSO RETAIN THE SERVICES OF AN ENVIRONMENTAL CONSULTANT WHO HAS DEMONSTRATED EXPERIENCE IN THE DESIGN OF FLOCCULANT TREATMENT SYSTEMS. THE CONSULTANT WILL ALSO BE RESPONSIBLE FOR THE IMPLEMENTATION AND MONITORING OF THE SYSTEM.

TABLE 1
GUIDANCE ON SELECTING TEMPORARY SOIL STABILIZATION MEASURES

APPLICATION AREAS	DRY MULCH METHODS				HYDRAULICALLY APPLIED MULCHES[2]				ROLLED EROSION CONTROL BLANKETS[3]			
	HMT	WC	SG	CB	HM	SMM	BFM	FRM	SNSB	DNSB	DNSCB	DNCB
SLOPES[1]												
STEEPER THAN 2:1	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	YES
2:1 SLOPE	YES'	YES'	YES	YES	NO	NO	YES	YES	NO	YES	YES	YES
3:1 SLOPE	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	NO
4:1 SLOPE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
WINTER STABILIZATION	4T/AC	YES	YES	YES	NO	NO	YES	YES	YES	YES	YES	YES
CHANNELS												
LOW FLOW CHANNELS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES
HIGH FLOW CHANNELS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES

ABBREV.	STABILIZATION MEASURE	ABBREV.	STABILIZATION MEASURE	ABBREV.	STABILIZATION MEASURE
HMT	HAY MULCH & TACK	HM	HYDRAULIC MULCH	SNSB	SINGLE NET STRAW BLANKET
WC	WOOD CHIPS	SMM	STABILIZED MULCH MATRIX	DNSB	DOUBLE NET STRAW BLANKET
SG	STUMP GRINDINGS	BFM	BONDED FIBER MATRIX	DNSCB	2 NET STRAW-COCONUT BLANKET
CB	COMPOST BLANKET	FRM	FIBER REINFORCED MEDIUM	DNCB	2 NET COCONUT BLANKET

NOTES:
1. ALL SLOPE STABILIZATION OPTIONS ASSUME A SLOPE LENGTH ≤10 TIMES THE HORIZONTAL DISTANCE COMPONENT OF THE SLOPE, IN FEET.
2. PRODUCTS CONTAINING POLYACRYLAMIDE (PAM) SHALL NOT BE APPLIED DIRECTLY TO OR WITHIN 100 FEET OF ANY SURFACE WATER WITHOUT PRIOR WRITTEN APPROVAL FROM THE NH DEPARTMENT OF ENVIRONMENTAL SERVICES.
3. ALL EROSION CONTROL BLANKETS SHALL BE MADE WITH WILDLIFE FRIENDLY BIODEGRADABLE NETTING.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

WETLAND IMPACT PLANS

Stantec

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
12-21-2015	Erosion Strategies	16147	4	15

GENERAL NOTES

1. SITE PREPARATION TO INCLUDE, BUT NOT LIMITED TO PAVEMENT AND DEBRIS REMOVAL, CLEARING AND GRUBBING, TREE REMOVAL AND STRIPPING AND STOCKPILING TOPSOIL. IN GENERAL, THE CONTRACTOR SHALL LIMIT THE AREA OF DISTURBANCE COMMENSURATE WITH THE CONTRACTOR'S CAPABILITY AND PROGRESS IN KEEPING GRADING, MULCHING, SEEDING AND UTILIZING TEMPORARY AND PERMANENT EROSION CONTROL MEASURES CONCURRENT WITH OPERATIONS. EARTH STOCKPILES ARE TO BE SEEDED AND MULCHED AND HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.
2. INSTALL DRAINAGE SYSTEMS, PIPES, CULVERTS, DITCHES AND TEMPORARY EROSION CONTROL PROTECTIONS IN A SEQUENCE FROM OUTLET TO INLET, IN ORDER TO STABILIZE OUTLET AREAS BEFORE RUNOFF IS DIRECTED TO THEM.
3. ROUGH GRADE DIVERSIONS TO APPROXIMATE SUBGRADES ENSURING APPROPRIATE COMPACTION WHERE REQUIRED. REMOVE UNSUITABLE SOILS AS REQUIRED.
4. ALL ROADWAYS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE. THESE AREAS SHALL BE CONSIDERED STABLE WHEN BASE COURSE MATERIALS HAVE BEEN INSTALLED.
5. WINTER NOTES:
   - A. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
   - B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
   - C. AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES WHERE WORK HAS STOPPED FOR THE WINTER SEASON SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.
   - D. WINTER EXCAVATION AND EARTHWORK ACTIVITIES NEED TO BE LIMITED IN EXTENT AND DURATION, TO MINIMIZE POTENTIAL EROSION AND SEDIMENTATION IMPACTS. THE AREA OF EXPOSED SOIL SHALL BE LIMITED TO ONE ACRE, OR THAT WHICH CAN BE STABILIZED AT THE END OF EACH DAY UNLESS A WINTER CONSTRUCTION PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR CPESC SPECIALIST, IS REVIEWED AN APPROVED BY THE DEPARTMENT.

CONSTRUCTION SEQUENCE – 16147 BRIDGE REHABILITATION

1. COMPLETE INSTALLATION OF STORMWATER CONTROLS BY THE TIME EACH PHASE OF EARTH-DISTURBANCE HAS BEGUN, UNLESS INFEASIBLE. BY THE TIME EARTH-DISTURBANCE ACTIVITIES IN ANY GIVEN PORTION OF THE SITE HAS BEGUN, UNLESS INFEASIBLE, ANY DOWNGRADIENT SEDIMENT CONTROLS SHALL BE INSTALLED AND OPERATIONAL *(E.G., BUFFERS OR EQUIVALENT SEDIMENT CONTROLS, PERIMETER CONTROLS, EXIT POINT CONTROLS, STORMDRAIN INLET PROTECTION)* THAT CONTROL DISCHARGES FROM THE INITIAL SITE CLEARING, GRADING, EXCAVATING, AND OTHER LAND-DISTURBING ACTIVITIES. *(NOTE: WHERE IT IS INFEASIBLE TO INSTALL STORMWATER CONTROLS PRIOR TO THE INITIAL EARTH-DISTURBANCE, IT IS EPA'S EXPECTATION THAT IT WILL BE RARE CIRCUMSTANCE THAT WILL PREVENT THE OPERATOR FROM INSTALLING SUCH CONTROLS IMMEDIATELY FOLLOWING THE INITIALEARTH-DISTURBANCE.)* FOLLOWING THE INSTALLATION OF THESE INITIAL CONTROLS, ALL OTHER STORMWATER CONTROLS PLANNED FOR THIS PORTION OF THE SITE AND DESCRIBED IN THE SWPPP MUST BE INSTALLED AND MADE OPERATIONAL AS SOON AS CONDITIONS ON THE SITE ALLOW.
2. CONSTRUCTION SURVEY AND LAYOUT.
3. CONSTRUCT TEMPORARY STAGING AREAS.
4. INSTALL TEMPORARY DRAINAGE AND CONSTRUCT NORTHBOUND DIVERSION. WORK IS ANTICIPATED TO TAKE PLACE BETWEEN LATE MARCH AND EARLY MAY OF 2017.
   - A. STRIP AND STOCKPILE TOPSOIL FROM DIVERSION FOOTPRINT.
   - B. INSTALL FILL MATERIAL TO CONSTRUCT DIVERSION.
   - C. PLACE DIVERSION ROADWAY GRAVELS.
   - D. STABILIZE TEMPORARY FILL SLOPES AND DISTURBED MEDIAN AREAS.
   - E. PAVE DIVERSION.
5. MOVE TRAFFIC TO NORTHBOUND DIVERSION LAYOUT.
6. RECONSTRUCT NORTHBOUND BRIDGE.
7. RELOCATE TRAFFIC TO NORMAL CONFIGURATION FOR WINTER SEASON.
8. REMOVE NORTHBOUND DIVERSION AS NECESSARY.
9. INSTALL TEMPORARY DRAINAGE AND CONSTRUCT SOUTHBOUND DIVERSION. WORK IS ANTICIPATED TO TAKE PLACE IN SEPTEMBER AND OCTOBER OF 2017.
   - A. STRIP AND STOCKPILE TOPSOIL FROM DIVERSION FOOTPRINT.
   - B. INSTALL FILL MATERIAL TO CONSTRUCT DIVERSION.
   - C. PLACE DIVERSION ROADWAY GRAVELS.
   - D. STABILIZE TEMPORARY FILL SLOPES AND DISTURBED MEDIAN AREAS.
10. WINTER STABILIZATION, SEE NOTE 5 OF THE GENERAL NOTES ABOVE.
11. COMPLETE CONSTRUCTION OF SOUTHBOUND DIVERSION IN APRIL OF 2018.
    - A. PAVE DIVERSION
    - B. PLACE BARRIER
12. MOVE TRAFFIC TO SOUTHBOUND DIVERSION IN SPRING OF 2018.
13. RECONSTRUCT SOUTHBOUND BRIDGE.
14. RETURN TRAFFIC TO NORMAL LAYOUT FOR WINTER SEASON.
15. REMOVE SOUTHBOUND DIVERSION IN FALL OF 2018.
16. COMPLETE MEDIAN RESTORATION IN SPRING 2019.
17. INSTALL FINAL PAVEMENT IN SPRING OF 2019.
18. INSTALL PAVEMENT MARKINGS AND SIGNAGE IN SPRING OF 2019.
19. MAINTAIN AND CLEAN ALL TEMPORARY EROSION CONTROLS AND DRAINAGE FACILITIES UNTIL VEGETATED AREAS HAVE BEEN STABILIZED AND RUNOFF IS DIRECTED TOWARDS THEM.
20. REMOVE ACCUMULATED SEDIMENTS FROM EROSION CONTROL DEVICES AND DISPOSE OF IN A SECURE LOCATION. REMOVE TEMPORARY EROSION CONTROLS. DISTURBED AREAS RESULTING FROM THE REMOVAL OPERATION SHALL BE PERMANENTLY SEEDED.
21. WORK TO BE COMPLETED BY OCT. 31, 2019.

SCOUR COUNTERMEASURES FOR NORTHFIELD–TILTON (#14744A) GENERAL CONSTRUCTION SEQUENCE FOR COUNTERMEASURE INSTALLATIONS

1. INSTALL SEDIMENT CONTROL MEASURES PRIOR TO ANY OPERATION THAT WILL DISTURB THE EXISTING GROUND AND POTENTIALLY GENERATE STORM-WATER RUNOFF.
2. CONSTRUCT TEMPORARY ACCESS ROAD TO CROSS RAILROAD TRACKS AND REACH THE NORTHERN RIVER BANK.
3. AS NECESSARY, REMOVE SECTIONS OF WOODEN RAIL FENCE AND CHAIN LINK FENCE (AS APPROVED BY THE ENGINEER) IN ORDER TO CONSTRUCT TEMPORARY ACCESS ROAD BETWEEN I-93 NB PIER 2 AND THE RAILROAD TRACKS AND GAIN ACCESS TO THE CENTRAL STAGING AREA ALONG THE NORTH BANK BETWEEN BOTH BRIDGES.
4. COMPLETE CLEARING AND GRUBBING OPERATIONS ALONG THE NORTH BANK AS NECESSARY.
5. INSTALL WATER DIVERSION STRUCTURE AND TURBIDITY BARRIERS AROUND BOTH PIER 2'S AS SHOWN ON THE PLANS.
6. CONSTRUCT TEMPORARY ACCESS PLATFORMS (POTENTIALLY STARTING AT THE DOWNSTREAM MOST WORK AREA) AS NECESSARY AROUND PIER 2 OF THE I-93 SB BRIDGE TO ACCOMMODATE ALLOWABLE PICK DISTANCE FOR CRANE.
7. INSTALL TURBIDITY BARRIER AROUND I-93 SB PIER 1.
8. INSTALL RIPRAP ALONG PIER 1 OF THE I-93 SB BRIDGE.
9. EXCAVATE AROUND PIER 2 OF THE I-93 SB BRIDGE AS SHOWN ON THE PLANS AND INSTALL FILTER MATERIAL, BEDDING, AND CONCRETE ARMOR MATRIX COMPONENTS.
10. CONSTRUCT/MODIFY TEMPORARY ACCESS PLATFORMS AS NECESSARY AROUND PIER 2 OF THE I-93 NB BRIDGE TO ACCOMMODATE ALLOWABLE PICK DISTANCE FOR CRANE.
11. INSTALL TURBIDITY BARRIER AROUND I-93 NB PIER 1 AS SHOWN ON THE PLANS.
12. INSTALL RIPRAP ALONG PIER 1 OF THE I-93 NB BRIDGE.
13. EXCAVATE AROUND PIER 2 OF THE I-93 NB BRIDGE AS SHOWN ON THE PLANS AND INSTALL FILTER MATERIAL, BEDDING, AND CONCRETE ARMOR MATRIX COMPONENTS.
14. REMOVE TURBIDITY BARRIERS AROUND BOTH PIER 1'S.
15. REMOVE MATERIAL FROM ALL TEMPORARY ACCESS ROADS AND WORK PLATFORMS BELOW OHW LINE. THE CONTRACTOR MAY NEED TO WORK OUT OF THE RIVER IN STAGES.
16. REMOVE WATER DIVERSION STRUCTURE AND TURBIDITY BARRIER.
17. REMOVE REMAINING TEMPORARY ACCESS ROADWAY.
18. RE-ESTABLISH AND RE-GRADE BANK AREAS TO EXISTING ELEVATIONS AND SLOPE.
19. RE-ESTABLISH PEDESTRIAN WALKWAY, AND RAILROAD CROSSING.
20. RE-INSTALL REMOVED SECTIONS OF ALL FENCING
21. REMOVE EROSION CONTROL MEASURES AND RE-ESTABLISH LANDSCAPING.
22. WORK TO BE COMPLETED BETWEEN AUGUST 1, 2017 AND OCTOBER 31, 2017.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	NHDOT	DATE 03/16/15
NEW DESIGN	TAT	DATE 04/16
SHEET CHECKED	DEM	DATE 04/16
AS BUILT DETAILS		DATE

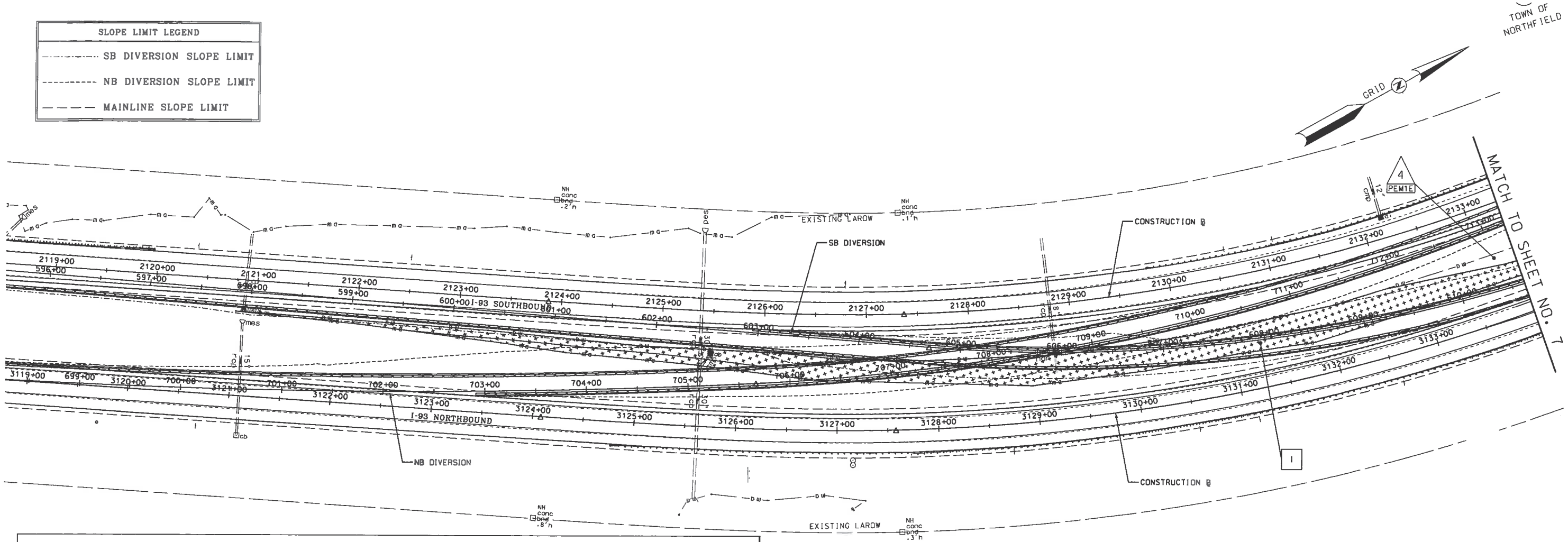
STATE OF NEW HAMPSHIRE

DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

CONSTRUCTION SEQUENCE

REVISION DATE	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
11-21-2014	Constr_Sequence	16147	5	15

SLOPE LIMIT LEGEND
SB DIVERSION SLOPE LIMIT
NB DIVERSION SLOPE LIMIT
MAINLINE SLOPE LIMIT



WETLAND IMPACT SUMMARY

WETLAND NUMBER	WETLAND CLASSIFICATION	LOCATION	AREA					COMMENTS
			PERMANENT IMPACTS				TEMPORARY IMPACTS	
			N.H.W.B. (NON-WETLAND)	N.H.W.B. & A.C.O.E. (WETLAND)	BANK	CHANNEL		
			SF	SF	LF	LF	SF	
1	R2UBH	A		376		61		SB PIER 1
1	R2UBH	B					454	SB PIER 1
1	R2UBH	C		406		50		NB PIER 1
1	R2UBH	D					551	NB PIER 1
1	R2UBH	E		1,642		62		SB PIER 2
1	R2UBH	F					14,062	
1	R2UBH	G		1,268		52		NB PIER 2
3	BANK	H					1,466	
4	PEM1E	I					26,537	
5	PEM1Ed	J					128	
6	PEM1Ed	K					20	
		TOTALS	0	3,692	0	225	43,218	

TOTAL IMPACTS FOR WETLANDS AND SHORELAND PERMITS		
WETLAND IMPACTS		
PERMANENT IMPACTS (WETLAND)	3,692	SF
PERMANENT IMPACTS (NON-WETLAND)	0	SF
TEMPORARY IMPACTS:	43,218	SF
TOTAL IMPACTS:	46,910	SF
STREAM IMPACTS		
PERMANENT IMPACTS TO BANKS	0	LF
PERMANENT IMPACTS TO CHANNEL	225	LF
TOTAL STREAM IMPACTS:	225	LF

LEGEND

TYPE OF WETLAND IMPACT	SHADING/ HATCHING
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)	
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)	
TEMPORARY IMPACTS	

- # — WETLAND DESIGNATION NUMBER
- # — WETLAND IMPACT LOCATION
- # — WETLAND MITIGATION AREA
- MITIGATION

50 0 50 100
SCALE IN FEET

WETLAND CLASSIFICATION CODES	
R2UBH	RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, PERMANENTLY FLOODED
PEM1E	PALUSTRINE, PERSISTENT EMERGENT VEGETATION, SEASONALLY FLOODED / SATURATED
BANK	NH JURISDICTIONAL RIVERBANK
PEM1Ed	PALUSTRINE, PERSISTENT EMERGENT VEGETATION, SEASONALLY FLOODED / SATURATED, DITCHED

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DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

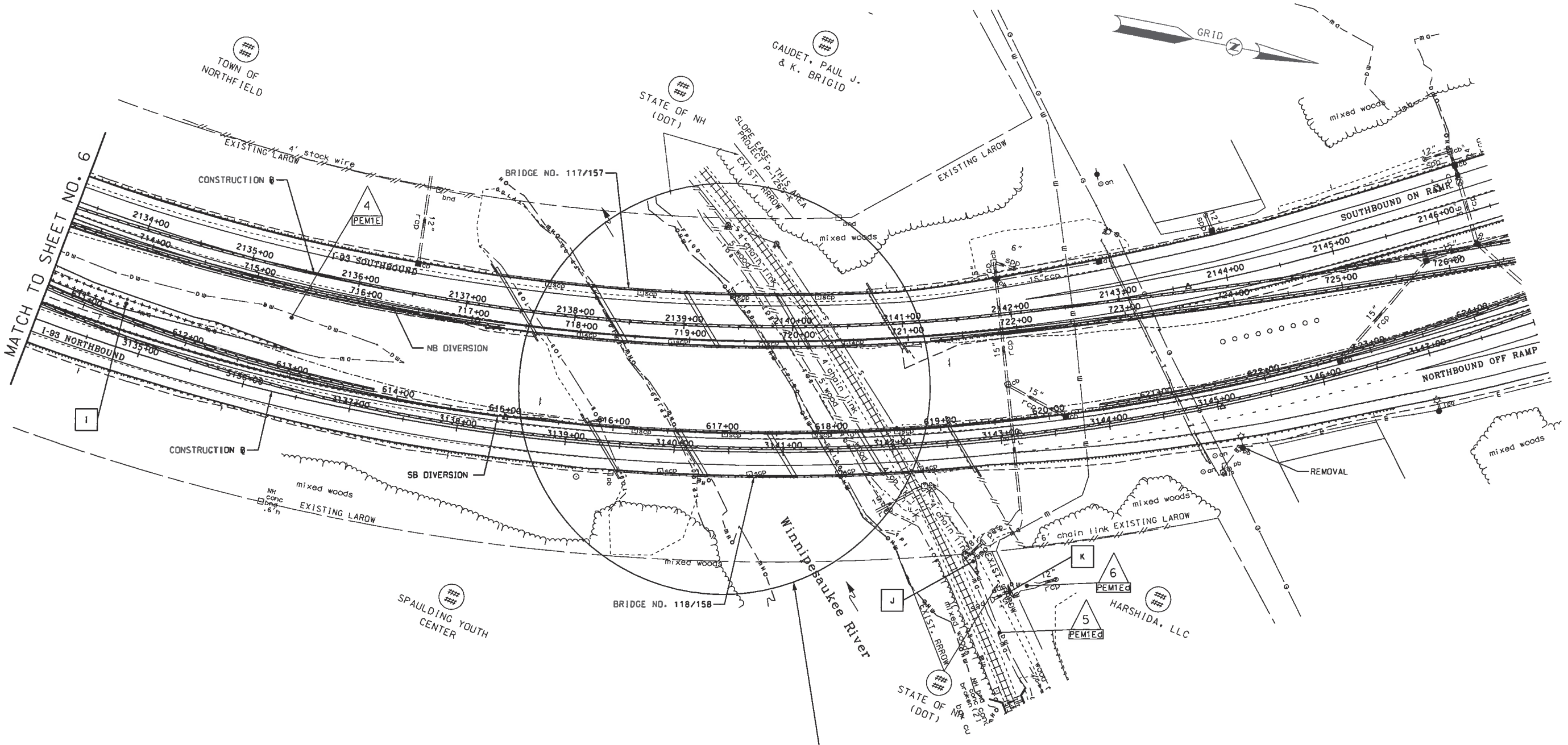
WETLAND IMPACT PLANS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Impact Plan 1	16147	6	15

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED NHDOT DATE 03/16/15
NEW DESIGN TPL DATE 04/16
SHEET CHECKED DEM DATE 04/16
AS BUILT DETAILS DATE



SEE SHEET NUMBERS 8-10 FOR IMPACTS RELATED TO SCOUR PROTECTION WORK
NORTHFIELD-TILTON 14744A
A001 (042)

SLOPE LIMIT LEGEND
SB DIVERSION SLOPE LIMIT
NB DIVERSION SLOPE LIMIT
MAINLINE SLOPE LIMIT

50 0 50 100
SCALE IN FEET

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STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

WETLAND IMPACT PLANS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Impact Plan 2	16147	7	15

NUMBER	DATE	STATION	DESCRIPTION

SDR PROCESSED NHDOT DATE 03/16/15
NEW DESIGN TPL DATE 04/16
SHEET CHECKED DEM DATE 04/16
AS BUILT DETAILS DATE

SDR PROCESSED	NHDOT	DATE	4/2012
NEW DESIGN	PRP	DATE	2/16/16
SHEET CHECKED	SC	DATE	2/16/16
AS BUILT DETAILS		DATE	

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	STATION	DESCRIPTION

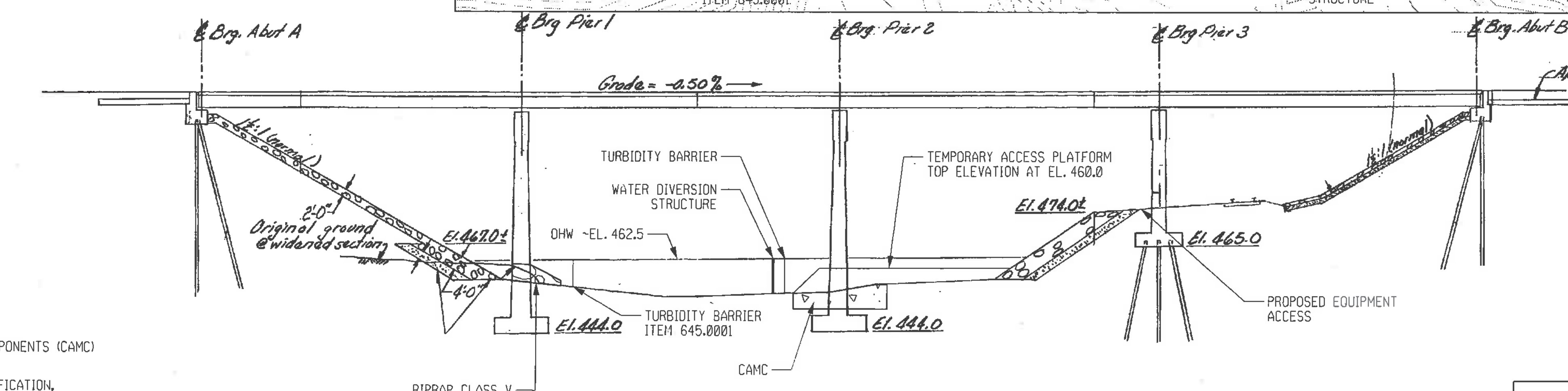
LEGEND

TYPE OF WETLAND IMPACT	SHADING/ HATCHING
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)	(hatched)
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)	(shaded)
TEMPORARY IMPACTS	(dotted)

△# WETLAND DESIGNATION NUMBER

□# WETLAND IMPACT LOCATION

20 0 20 40
SCALE IN FEET



ELEVATION
NOT TO SCALE

DETAILS ON THE DRAWINGS LABELED AS "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS, FOR WHICH NO SCALE IS SHOWN, ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.

SEE NOTE 1

STATE OF NEW HAMPSHIRE
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BRIDGE DESIGN DIVISION
TOWN NORTHFIELD-TILTON   BRIDGE NO. 118/153NB, 117/157 SB
FEDERAL PROJECT I-IR-93-6(88)56   STATE PROJECT P-1265-K
LOCATION INTERSTATE ROUTE 93 WIDENING over WINNIPESAUKEE RIVER & RR
PROFILES AND APPROACH SECTIONS

	BY	DATE		BY	DATE	BRIDGE SHEET NO.
DESIGNED	JAM	1/78	CHECKED	RTF	3/78	2 OF 27
DRAWN	JAM	2/78	CHECKED	RTF	3/78	FILE NUMBER
TRACED	JAM	2/78	CHECKED	RTF	3/78	9-2-1
QUANTITIES	DJR	3/78	CHECKED	JAM	3/78	
REVIEWED BY			PROJ. NO. I-IR-93-6(88)56		SHEET NO. 21	TOTAL SHEETS 228

LEGEND:

CONCRETE ARMOR MATRIX COMPONENTS (CAMC)

RIPRAP, CLASS V (NEW CLASSIFICATION, SIMILAR TO PREVIOUS RIPRAP, CLASS C GRADATION) - ITEM 583.5

1. EXISTING DETAIL SHOWN IN ELEVATION WAS TAKEN FROM BRIDGE SHEET NO. 2 OF 27, 1978 PLANS. THIS PLAN DEPICTS PROPOSED CHANNEL WORK ONLY AND ANY OTHER REFERENCE TO PROPOSED WORK IS BASED ON 1978 PLANS. EXISTING DETAIL IN PLAN VIEW IS BASED ON TOPOGRAPHIC SURVEY PERFORMED BY NHDOT APRIL, 2012.
2. FOR I-93 NORTHBOUND AND SOUTHBOUND, PIER 1 & 2 DETAILS, SEE SHEET 2.
3. 100-YEAR FLOODPLAIN LIMIT AS DEPICTED IS INTERPOLATED FROM BASE FLOOD ELEVATIONS PROVIDED IN FEMA FLOOD INSURANCE STUDY NUMBER 33013CV001A, FEDERAL EMERGENCY MANAGEMENT AGENCY, EFFECTIVE APRIL 10, 2010.
4. MAINTAIN A CLEAR AND UNOBSTRUCTED NAVIGATION CHANNEL BETWEEN PIERS 1 AND 2.

CHA
11 King Court
Keene, NH 03431-4648
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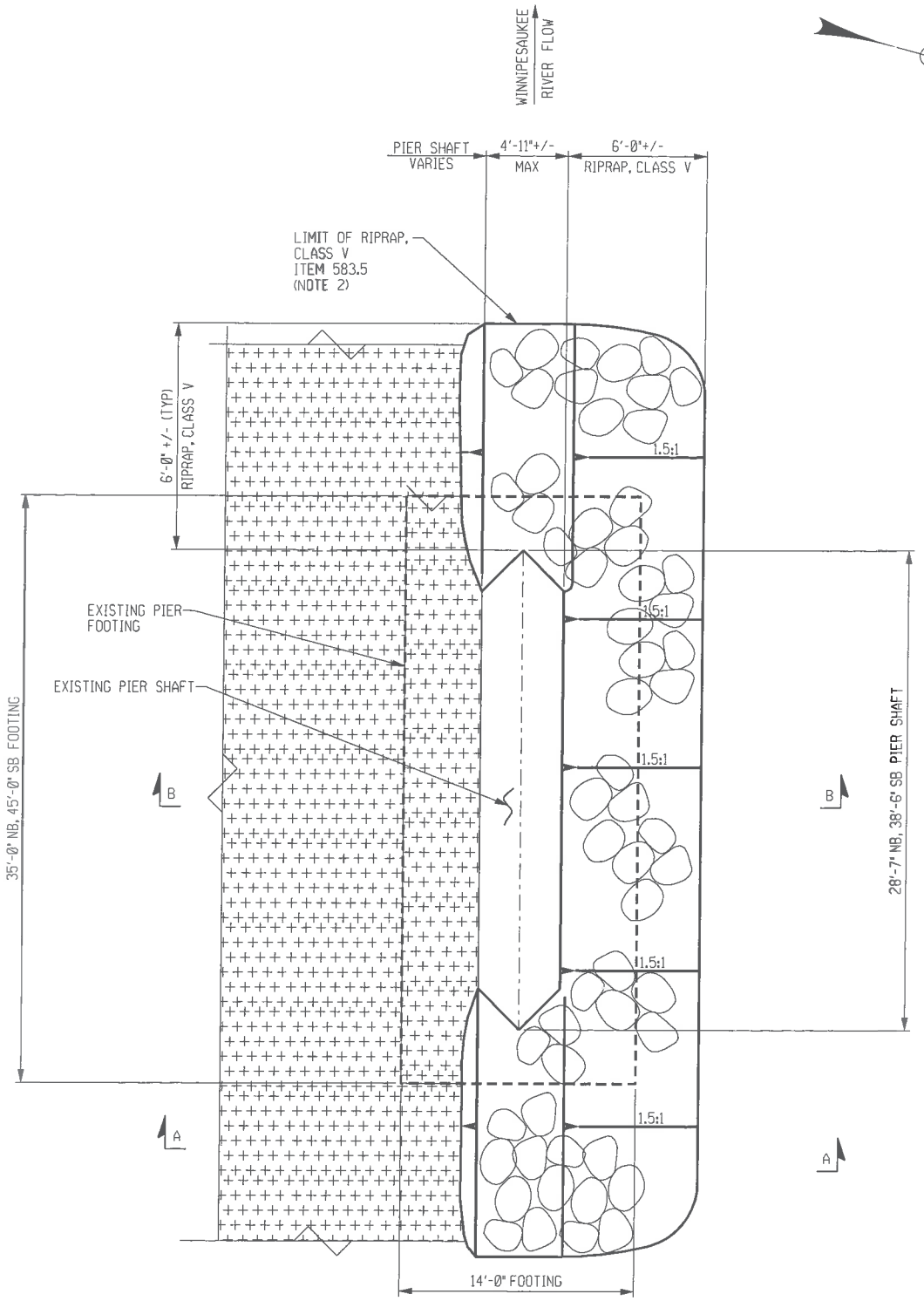
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF ENVIRONMENT

WETLAND IMPACT PLANS
I-93 OVER WINNIPESAUKEE RIVER
NORTHFIELD & TILTON N.H.

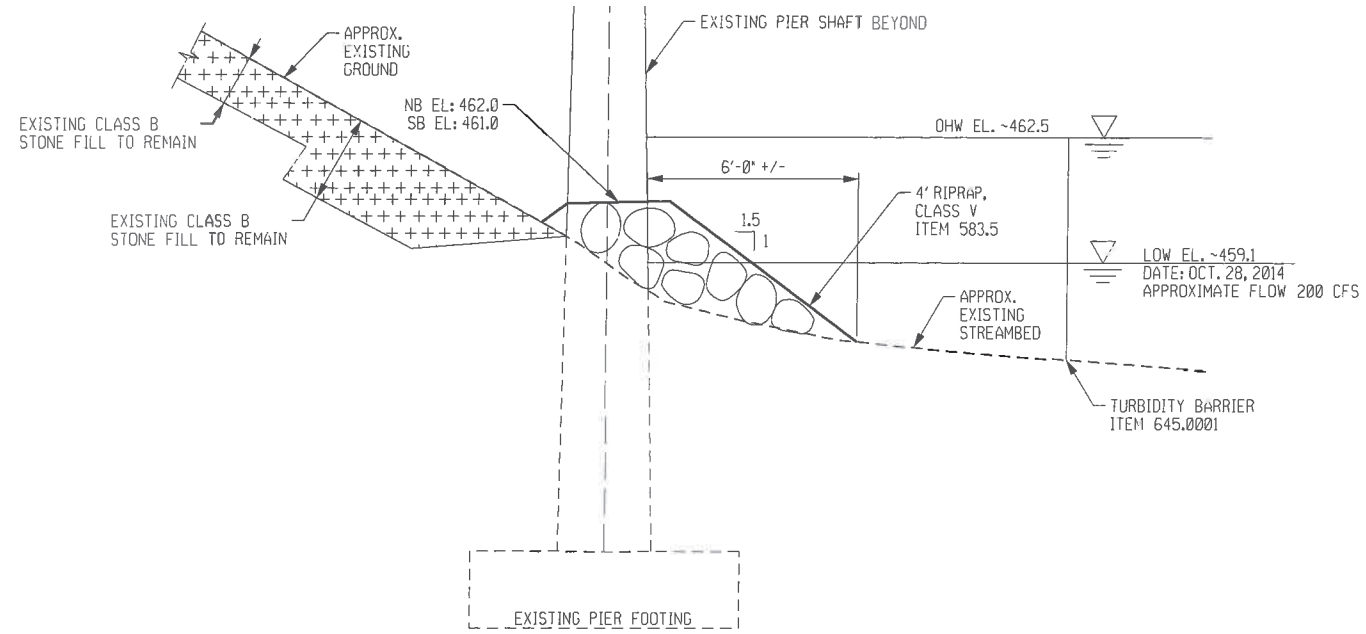
DGN	FERERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
30464_GENPLN.dgn	A001(042)	8	15



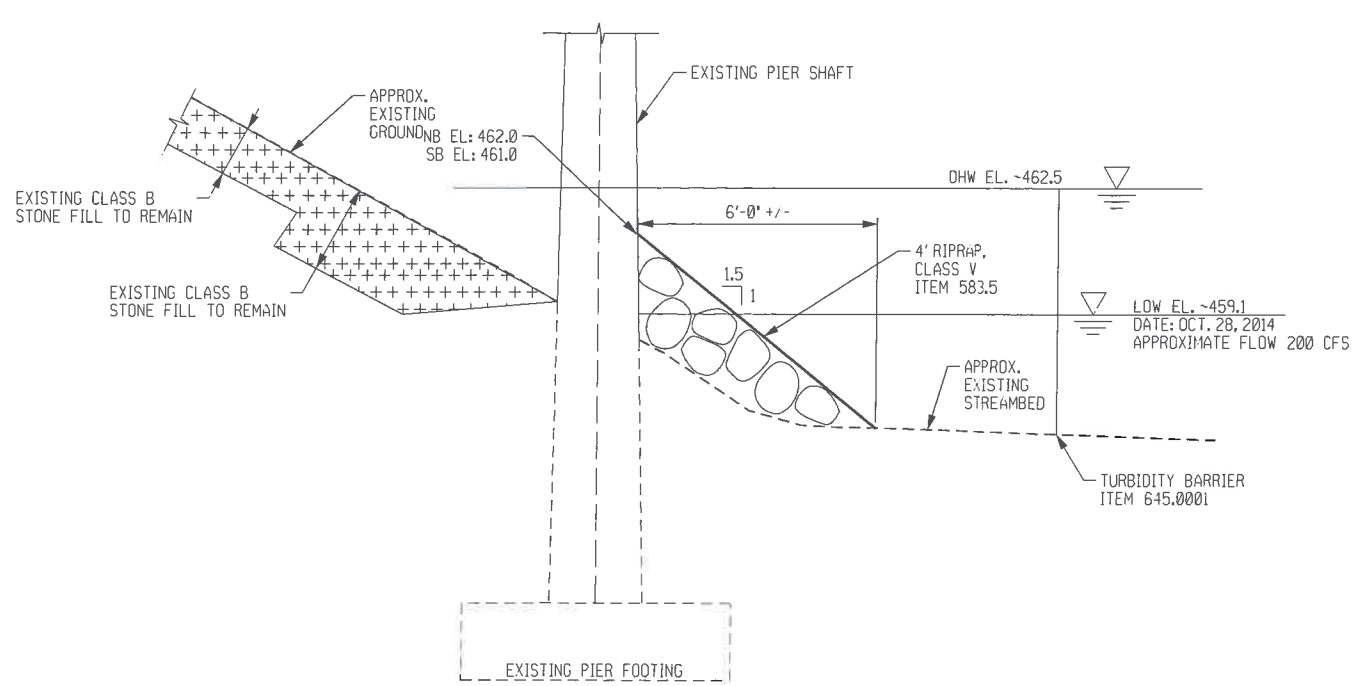
LEGEND:

- RIPRAP, CLASS V (NEW CLASSIFICATION, SIMILAR TO PREVIOUS RIPRAP, CLASS C GRADATION) - ITEM 583.5
- EXISTING STONE TO REMAIN

TYPICAL PLAN
I-93 PIER 1 NORTHBOUND AND SOUTHBOUND
NOT TO SCALE



SECTION A-A - TYPICAL PIER 1 NORTHBOUND AND SOUTHBOUND
NOT TO SCALE



SECTION B-B - TYPICAL PIER 1 NORTHBOUND AND SOUTHBOUND
NOT TO SCALE

NOTES:

1. EXISTING STREAMBED AND STONE DEPICTED ARE APPROXIMATE BASED ON CONTOURS FROM 2012 SURVEY, FIELD OBSERVATION, AND 1978 PLANS. CONTRACTOR SHALL VERIFY STREAM BED ELEVATIONS PRIOR TO COMMENCEMENT OF WORK.
2. RIPRAP SHALL BE PLACED ON TOP OF THE EXISTING STREAMBED AND BANK MATERIAL TO THE ELEVATION SHOWN, AS DIRECTED BY THE ENGINEER.

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	DATE	STATION

SDR PROCESSED	NHDOT	DATE 4/2012
NEW DESIGN	PRP	DATE 2/16/16
SHEET CHECKED	SC	DATE 2/16/16
AS BUILT DETAILS		DATE

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STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF ENVIRONMENT

WETLAND IMPACT PLANS PIER 1 I-93 OVER WINNIPESAUKEE RIVER NORTHFIELD & TILTON N.H.

DGN	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
30464_GENPLN.dgn	A001(042)	9	15

SDR PROCESSED	NHDOT
NEW DESIGN	PRP
SHEET CHECKED	SC
DATE	DATE 2/16/16
DATE	DATE 2/16/16
AS BUILT DETAILS	DATE 4/2012
DATE	

NUMBER	DATE	STATION	STATION

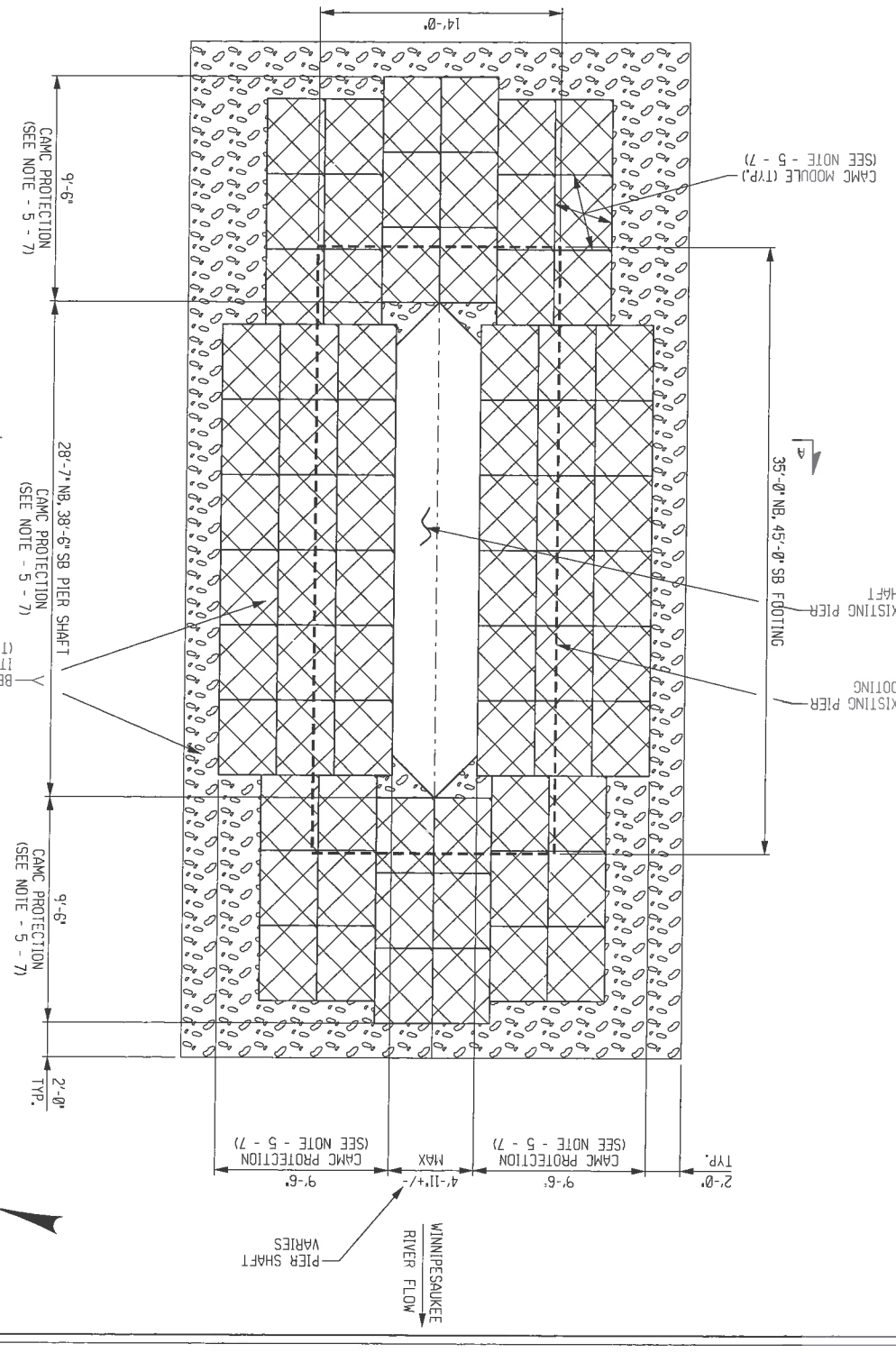
REVISIONS AFTER PROPOSAL

DESCRIPTION

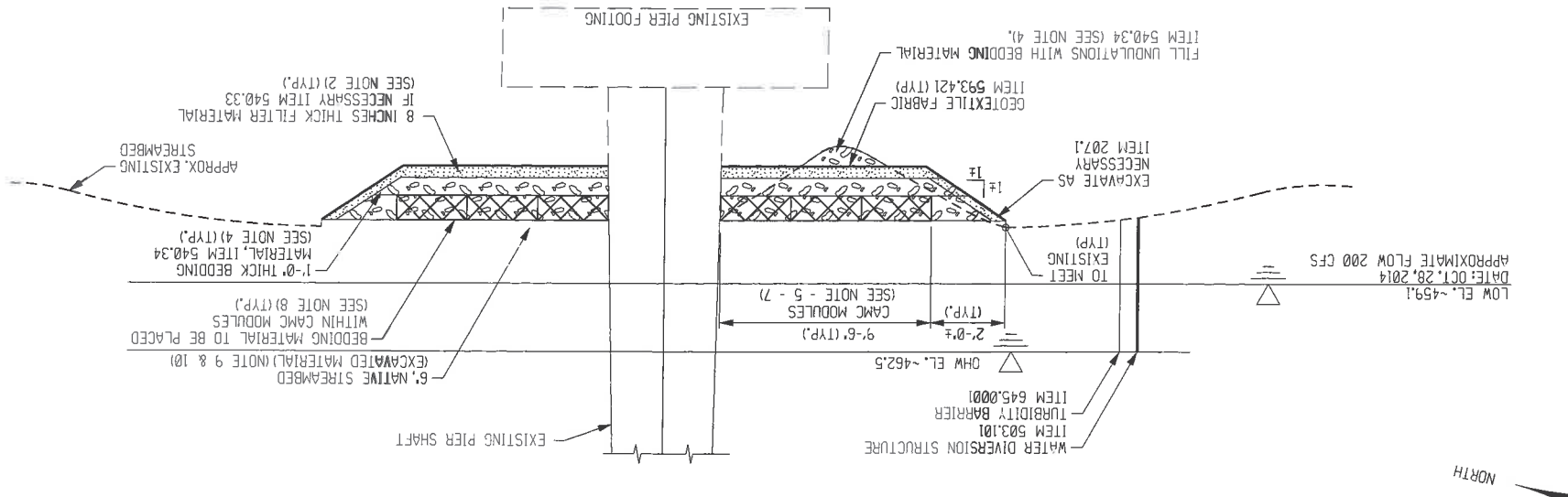
LEGEND:

- CONCRETE ARMOR MATRIX COMPONENT (CAMC) - ITEM 540.31
- BEDDING MATERIAL - ITEM 540.34
- FILLER MATERIAL - ITEM 540.33

TYPICAL PLAN
I-93 PIER 2 NORTHBOUND AND SOUTHBOUND
NOT TO SCALE



SECTION A-A - PIER 2 I-93 NORTHBOUND & SOUTHBOUND
NOT TO SCALE



NOTES:

1. EXISTING STREAMBED IS APPROXIMATE BASED ON CONTOURS FROM 2012 SURVEY. CONTRACTOR SHALL DETERMINE STREAMBED ELEVATIONS AND PREPARE A CHANNEL BOTTOM CONTOUR MAP PRIOR TO COMMENCEMENT OF WORK.
2. REFER TO SECTION 540 SPECIAL PROVISION FOR ADDITIONAL INFORMATION.
3. FILLER MATERIAL (ITEM 540.33 SCOUR COUNTERMEASURE FILLER MATERIAL) MAY BE REQUIRED IF A GENERALLY UNIFORM LAYER OF SAND EXISTS AT THE BOTTOM OF EXCAVATION - REFER TO SPECIAL PROVISION FOR CLARIFICATION.
4. A 1'-0" LAYER OF BEDDING MATERIAL (ITEM 540.34 SCOUR COUNTERMEASURE BEDDING MATERIAL) SHALL BE PLACED OVER THE ENTIRE FOOTPRINT OF THE COUNTERMEASURE AREA PRIOR TO INSTALLATION OF THE CONCRETE ARMOR MATRIX COMPONENTS. BEDDING MATERIAL MAY BE USED TO SMOOTH THE SURFACE OF THE NATURAL STREAMBED IN THOSE AREAS OF HOLLOWS OR UNDULATIONS.
5. CONCRETE ARMOR MATRIX COMPONENT (CAMC) MODULES SHALL BE COMPRISED OF 24 INCH LONG A-JACKS COMPONENTS (PAID INDIVIDUALLY UNDER ITEM 540.31) IN A 5X4X5 COMPACT CONFIGURATION, HAVING 12 INCH SPACING BETWEEN ELEMENTS. THE EXACT DIMENSIONS OF MODULES MAY VARY ACCORDING TO THE SUPPLIER AND PLACEMENT OF INDIVIDUAL ELEMENTS WITHIN THE MODULE. THE DIMENSION BETWEEN ADJACENT ELEMENTS OF ADJACENT MODULES SHALL BE MINIMIZED DURING PLACEMENT TO GENERALLY MATCH THE SPACING OF ELEMENTS WITHIN MODULES.
6. THE NUMBER OF MODULES USED AND THEIR CONFIGURATION MAY BE ADJUSTED IN ACCORDANCE WITH THE A-JACK COMPONENT USED, AS APPROVED BY THE ENGINEER. AS SUCH, THE MODULES SHOWN IN THE PLAN VIEW ARE NOT SHOWN TO SCALE FOR DIMENSION OR QUANTITY.
7. PLACE THE CAMC MODULES WITH THE LONG AXIS PARALLEL TO STREAM FLOW AS SHOWN IN THE PLAN VIEW. PLACE A CABLE AROUND THE ENTIRE PERIMETER FOLLOWING PLACEMENT OF ALL MODULES.
8. PLACE BEDDING MATERIAL OVER THE COMPLETED A-JACKS INSTALLATION TO FILL VOIDS AND EMBED THE A-JACKS TO FULL HEIGHT.
9. NATURAL STREAMBED (EXCAVATED MATERIAL) TO BE PLACED ON TOP OF CAMC MODULES ONCE THEY ARE COMPLETELY FILLED WITH BEDDING MATERIAL.
10. FINAL ELEVATION (TOP OF COUNTERMEASURE) SHALL NOT EXCEED EXISTING STREAMBED CONTOURS AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

DETAILS ON THE DRAWINGS LABELED AS "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS, FOR WHICH NO SCALE IS SHOWN, ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.

CHA
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Keene, NH 03431-4648
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STATE OF NEW HAMPSHIRE

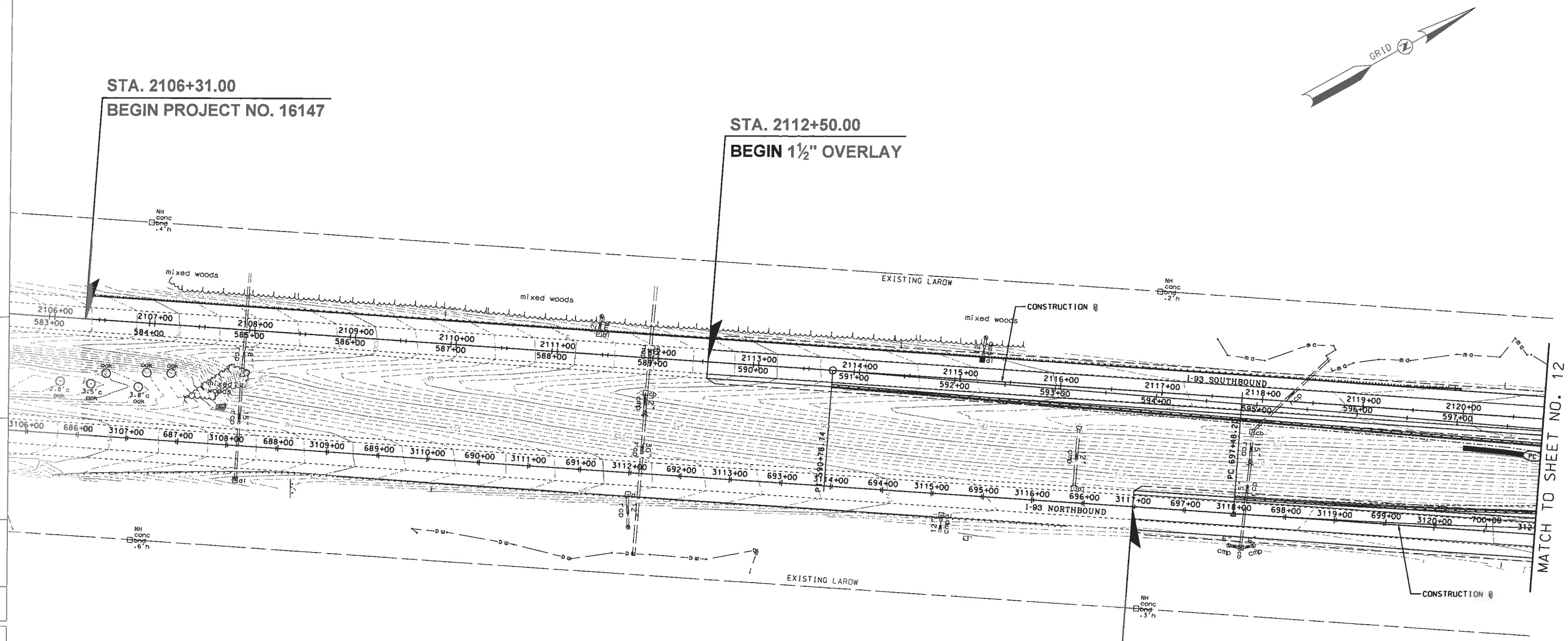
DEPARTMENT OF TRANSPORTATION • BUREAU OF ENVIRONMENT

WETLAND IMPACT PLANS PIER 2 I-93 OVER WINNIPESAUKEE RIVER NORTHFIELD & TILTON N.H.

DGN	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
30464_GENPLN.dgn	A001(042)	10	15

STA. 2106+31.00
BEGIN PROJECT NO. 16147

STA. 2112+50.00
BEGIN 1½" OVERLAY



STA. 3117+00.00
BEGIN PROJECT NO. 16147

EROSION CONTROL PLAN LEGEND

PC	PERIMETER CONTROL SILT FENCE EROSION CONTROL MIX BERM EROSION CONTROL MIX SOX TURBIDITY CURTAIN SHEET PILE COFFER DAM
NB/PC	NATURAL BUFFER/PERIMETER CONTROL SILT FENCE EROSION CONTROL MIX BERM EROSION CONTROL MIX SOX TURBIDITY CURTAIN SHEET PILE COFFER DAM
CP	CHANNEL PROTECTION STONE CHECK DAMS STRAW WATTLES CHANNEL MATTING CLASS 0 EROSION STONE CLASS C STONE
CWB	CLEAN WATER BYPASS PUMP THROUGH PIPE DRAIN THROUGH PIPE OR CHANNEL

SLOPE LIMIT LEGEND	
SB DIVERSION SLOPE LIMIT	
NB DIVERSION SLOPE LIMIT	
MAINLINE SLOPE LIMIT	

50 0 50 100
SCALE IN FEET

Stantec

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION ∘ BUREAU OF HIGHWAY DESIGN

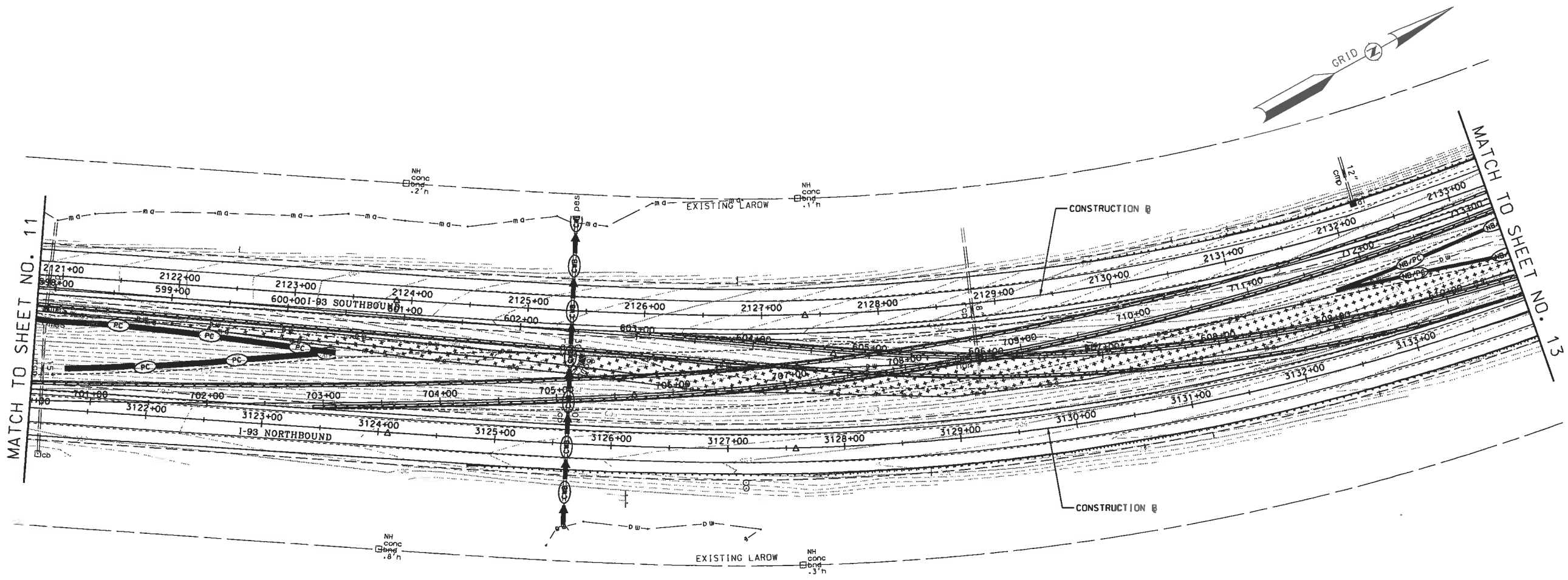
EROSION CONTROL PLANS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Plan 1	16147	11	15

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	NHDOT	DATE 03/16/15
NEW DESIGN	TPL	DATE 04/16
SHEET CHECKED	DEM	DATE 04/16
AS BUILT DETAILS		DATE



EROSION CONTROL PLAN LEGEND

- PC — PERIMETER CONTROL
  - SILT FENCE
  - EROSION CONTROL MIX BERM
  - EROSION CONTROL MIX SOX
  - TURBIDITY CURTAIN
  - SHEET PILE
  - COFFER DAM
- NB/PC — NATURAL BUFFER/PERIMETER CONTROL
  - SILT FENCE
  - EROSION CONTROL MIX BERM
  - EROSION CONTROL MIX SOX
  - TURBIDITY CURTAIN
  - SHEET PILE
  - COFFER DAM
- CP — CHANNEL PROTECTION
  - STONE CHECK DAMS
  - STRAW WATTLES
  - CHANNEL MATTING
  - CLASS D EROSION STONE
  - CLASS C STONE
- CWB — CLEAN WATER BYPASS
  - PUMP THROUGH PIPE
  - DRAIN THROUGH PIPE OR CHANNEL

SLOPE LIMIT LEGEND

- SB DIVERSION SLOPE LIMIT
- NB DIVERSION SLOPE LIMIT
- MAINLINE SLOPE LIMIT

50 0 50 100
SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	NHDOT	DATE 03/16/15
NEW DESIGN	TPL	DATE 04/16
SHEET CHECKED	DEM	DATE 04/16
AS BUILT DETAILS		DATE

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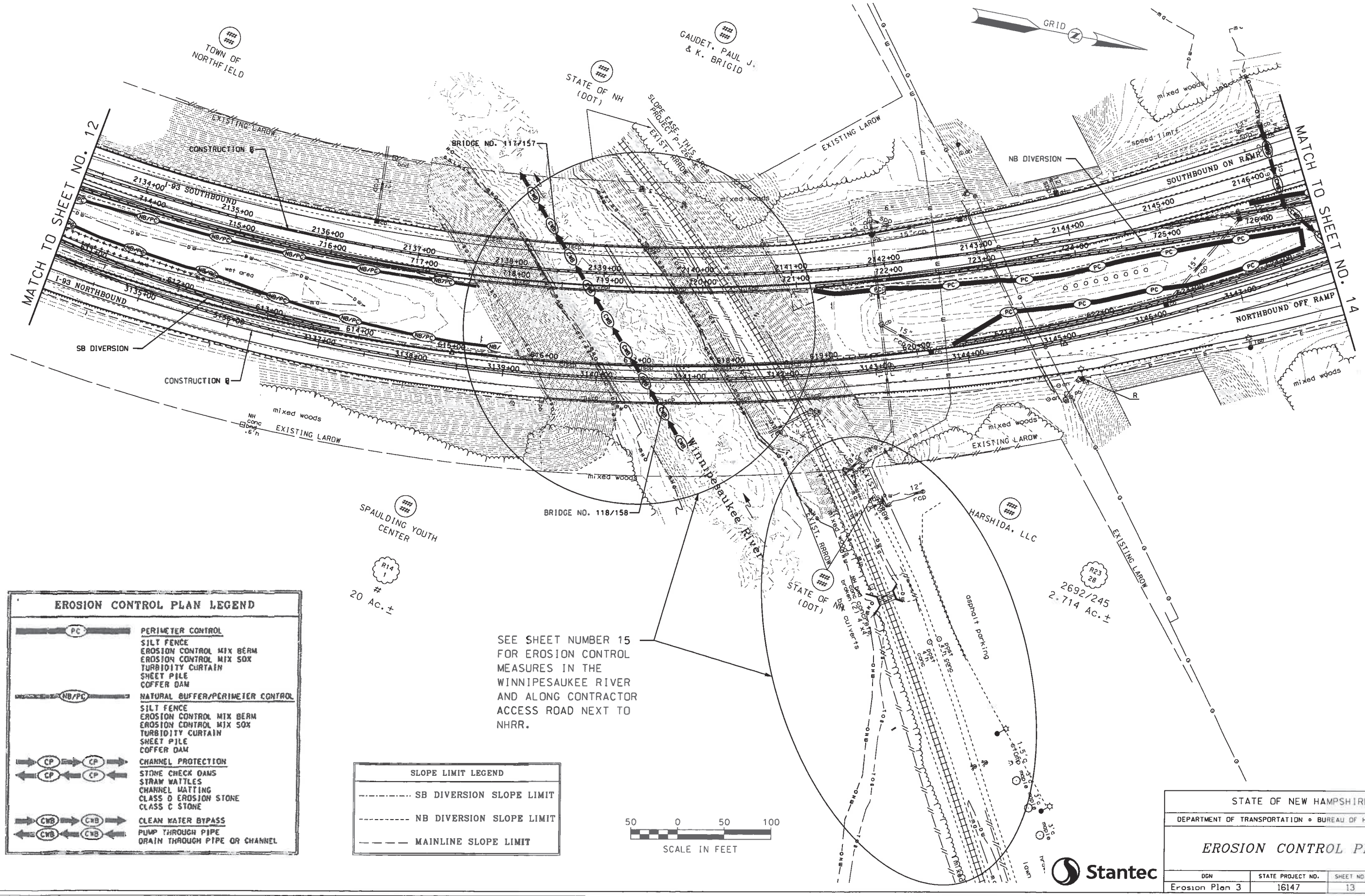
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLANS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Plan 2	16147	12	15



EROSION CONTROL PLAN LEGEND

- PC — PERIMETER CONTROL
  - SILT FENCE
  - EROSION CONTROL MIX BERM
  - EROSION CONTROL MIX SOX
  - TURBIDITY CURTAIN
  - SHEET PILE
  - COFFER DAM
- NB/PC — NATURAL BUFFER/PERIMETER CONTROL
  - SILT FENCE
  - EROSION CONTROL MIX BERM
  - EROSION CONTROL MIX SOX
  - TURBIDITY CURTAIN
  - SHEET PILE
  - COFFER DAM
- CP — CHANNEL PROTECTION
  - STONE CHECK DAMS
  - STRAW WATTLES
  - CHANNEL MATTING
  - CLASS D EROSION STONE
  - CLASS C STONE
- CWB — CLEAN WATER BYPASS
  - PUMP THROUGH PIPE
  - DRAIN THROUGH PIPE OR CHANNEL

SLOPE LIMIT LEGEND

- SB DIVERSION SLOPE LIMIT
- NB DIVERSION SLOPE LIMIT
- MAINLINE SLOPE LIMIT

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	NHDOT	DATE 03/16/15
NEW DESIGN	TPL	DATE 04/16
SHEET CHECKED	DEM	DATE 04/16
AS BUILT DETAILS		DATE

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EROSION CONTROL PLANS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Plan 3	16147	13	15

LIMIT OF WORK
STA. 2150+63

STA. 2160+00
END PROJECT NO. 16147

LIMIT OF WORK
STA. 2156+33

MATCH TO SHEET NO. 13

LIMIT OF WORK
STA. 3151+02

STA. 3159+00
END PROJECT NO. 16147

EROSION CONTROL PLAN LEGEND

PERIMETER CONTROL
SILT FENCE
EROSION CONTROL MIX BERM
EROSION CONTROL MIX SOX
TURBIDITY CURTAIN
SHEET PILE
COFFER DAM

NATURAL BUFFER/PERIMETER CONTROL
SILT FENCE
EROSION CONTROL MIX BERM
EROSION CONTROL MIX SOX
TURBIDITY CURTAIN
SHEET PILE
COFFER DAM

CHANNEL PROTECTION
STONE CHECK DAMS
STRAW WATTLES
CHANNEL MATTING
CLASS D EROSION STONE
CLASS C STONE

CLEAN WATER BYPASS
PUMP THROUGH PIPE
DRAIN THROUGH PIPE OR CHANNEL

SLOPE LIMIT LEGEND

SB DIVERSION SLOPE LIMIT
NB DIVERSION SLOPE LIMIT
MAINLINE SLOPE LIMIT

50 0 50 100
SCALE IN FEET

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED NHDOT DATE 03/16/15
NEW DESIGN TPL DATE 04/16
SHEET CHECKED DEM DATE 04/16
AS BUILT DETAILS DATE

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DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

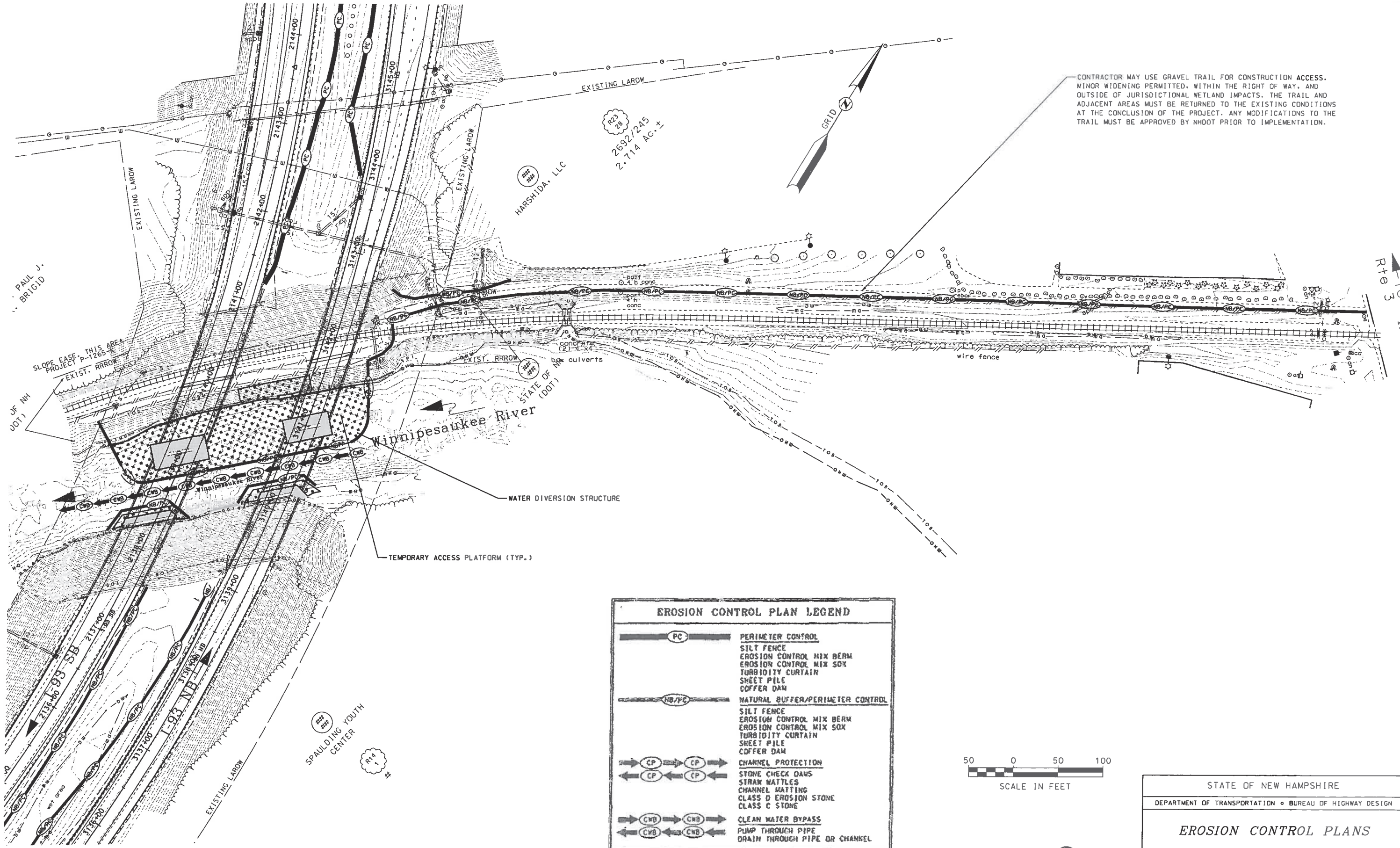
EROSION CONTROL PLANS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Plan 4	16147	14	15

REVISIONS AFTER PROPOSAL

NUMBER	DESCRIPTION	STATION	STATION	DATE

SDR PROCESSED	NHDOT	DATE 03/16/15
NEW DESIGN	TPL	DATE 04/16
SHEET CHECKED	DEM	DATE 04/16
AS BUILT DETAILS		DATE



EROSION CONTROL PLAN LEGEND

PC	PERIMETER CONTROL SILT FENCE EROSION CONTROL MIX BERM EROSION CONTROL MIX SOX TURBIDITY CURTAIN SHEET PILE COFFER DAM
NB/PC	NATURAL BUFFER/PERIMETER CONTROL SILT FENCE EROSION CONTROL MIX BERM EROSION CONTROL MIX SOX TURBIDITY CURTAIN SHEET PILE COFFER DAM
CP	CHANNEL PROTECTION STONE CHECK DAMS STRAW WATTLES CHANNEL MATTING CLASS D EROSION STONE CLASS C STONE
CWB	CLEAN WATER BYPASS PUMP THROUGH PIPE DRAIN THROUGH PIPE OR CHANNEL

50 0 50 100
SCALE IN FEET

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STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN

EROSION CONTROL PLANS

DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
Erosion Plan 5	16147	15	15